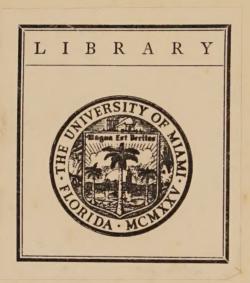


AMERICA THE LAND WE LOVE



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AMERICA THE LAND WE LOVE







The New Declaration of Independence

—AMERICA FOR HUMANITY—

I, the Undersigned, hereby pledge my Loyalty to "America: The Land We Love" and do here covenant myself to support by word and deed the Principles set forth in The Declaration of Independence and the Doctrines Established in the Constitution of the United States.

I affirm my Faith in the Cardinal Principles of Liberty, Justice, and Equality throughout the World—regardless of Race, Creed, Sex or Birthplace, subscribing to our Nation's policy: "America for Humanity."

I consecrate myself to the High Ideals and Sacred Duties of American Citizenship, to the protection of Home and Country, and to the maintenance of the Honor of the Republic in my Civic, Social and Business Relations—"with malice toward None and Charity for All."

Sealed with my signature on this	
day of, in the	
year of	
	(Sign here)



AMERICA THE LAND WE LOVE

A NARRATIVE RECORD

OF THE

ACHIEVEMENTS OF THE AMERICAN PEOPLE

THEIR HISTORY—GOVERNMENT—WARS—INVENTIONS—DISCOVERIES
—GREAT MEN—FAMOUS WOMEN—INDUSTRY—COMMERCE—AND
THE ESSENTIAL ELEMENTS THAT HAVE ENTERED
INTO THE BUILDING OF THE REPUBLIC

RY

FRANCIS TREVELYAN MILLER, LL.D., LITT. D.

EDITOR-IN-CHIEF OF THE TEN VOLUME "PHOTOGRAPHIC HISTORY OF THE CIVIL WAR,"

AUTHOR OF "AMERICAN HERO TALES," "PORTRAIT LIFE OF LINCOLN,"

"WONDER STORIES," FOUNDER OF THE JOURNAL OF

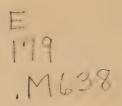
AMERICAN HISTORY

WITH EXCERPTS FROM EPOCH-MAKING SPEECHES BY
WOODROW WILSON, WILLIAM H. TAFT, THEODORE ROOSEVELT,
PRESIDENTS OF THE UNITED STATES

THREE HUNDRED ILLUSTRATIONS
HISTORIC ENGRAVINGS—FAMOUS PAINTINGS—PHOTOGRAPHS

NEW YORK
WILLIAM THOMAS BLAINE
MCMXVI





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NEW YORK







PUBLISHER'S STATEMENT

T is a privilege as well as a duty to present this volume to the American people under the inspiring title: "America: The Land We Love," covering its 400 years of progress and growth. It is a book with a great mission to perform; a book with a message. It has a public service to render which we believe has not come within the province

of a single volume since the founding of the American Nation.

This book, therefore, is in the nature of a national survey for the whole American People-regardless of creed, race, sex, political faith or birthplace—a book for the hundred million Americans, uniting them all under a common standard. Its purpose is to arouse them to an understanding of their potential power—their past achievements, their present greatness, and their future opportunities-to awaken in them the full realization of the magnitude of their obligations and responsibilities to

American citizenship.

This National awakening can be accomplished only through one force—that is, the public press, the miracle of advancing civilization—the greatest single force in the moulding of National character, in developing the latent resources of a people, enlightening their minds, and generating the elements that result in the rise or fall of nations. Through the loyal co-operation of the American press, this volume undertakes to lay before the American people a narrative record of their achievements—their History, Government, Wars, Inventions, Discoveries, Great Men, Famous Women, and all the essential elements that have entered into the building of the Republic to the first position among all nations.

It is sufficient to state that this work is under the direction of Dr. Miller, a historian who has performed many notable services to his country. (See title page.) Under his supervision a national board of investigators and researchers have examined carefully every phase of our National progress. They have analyzed the evidence presented by more than 1,500 authorities. This examination covers every available source of accurate information and includes the judgment of the most eminent American historians. It is not only a work of approved scholarship and authenticity, but an expression of loyalty for a common cause—our nation's lofty principles of liberty, justice and equality—an endeavor to instill National spirit, to organize National unity, to rally every loyal American to the National pledge of AMERICA FOR HUMANITY. The wonderful and inspiring story of American civilization is unfolded in graphic narrative in these pages to give the reader a comprehensive understanding at a glance of "AMERICA: The Land We Love," and to impress him with a correct knowledge of the great honor and distinction of being an American citizen.

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GALLERY OF PORTRAITS OF THE PRESIDENTS OF THE UNITED STATES WITH AUTOGRAPH SIGNATURES—

Twenty-seven etchings by Audibert—Reproduced by courtesy of Mr. Irving E. Rines and permission of the American Educational Alliance.

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Florida	Maryland	New Jersey	South Carolina	Wisconsin
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PORTO RICO—HAWAII—ALASKA—PHILIPPINE ISLANDS FACSIMILE OF THE ORIGINAL DECLARATION OF INDEPENDENCE

RARE ENGRAVINGS OF GREAT EVENTS AND WARS

From Collection in the The Search-Light Library PHOTOGRAPHIC TOURS THROUGH AMERICA

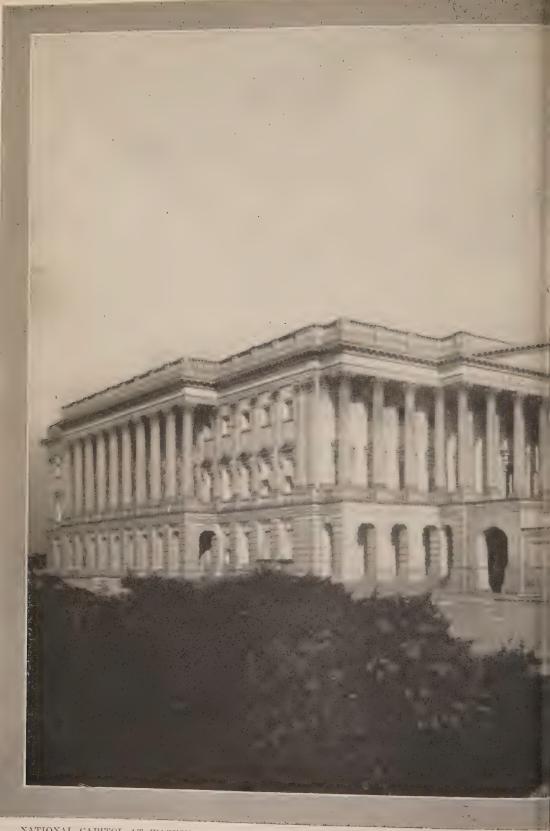
Collection of Photographic Prints Showing the Mountains, Rivers, Agricultural and Mineral Wealth, and Scenic Grandeur of America

Hudson River Colorado Canyon Panama Canal
Niagara Falls Yellowstone Park Great Lakes
White Mountains Yosemite Valley Mississippi River
Natural Bridge Garden of the Gods Pacific and Atlantic States

Together with other photographs, covering the various phases of American Life, making a collection of about 300 historic illustrations.



PRESIDENT'S ROOM IN THE WHITE HOUSE—Glimpse behind the scenes of Governmen in Washington—Here the diplomats from the world's great powers meet the President on State occasions—Momentous problems are discussed in this room.



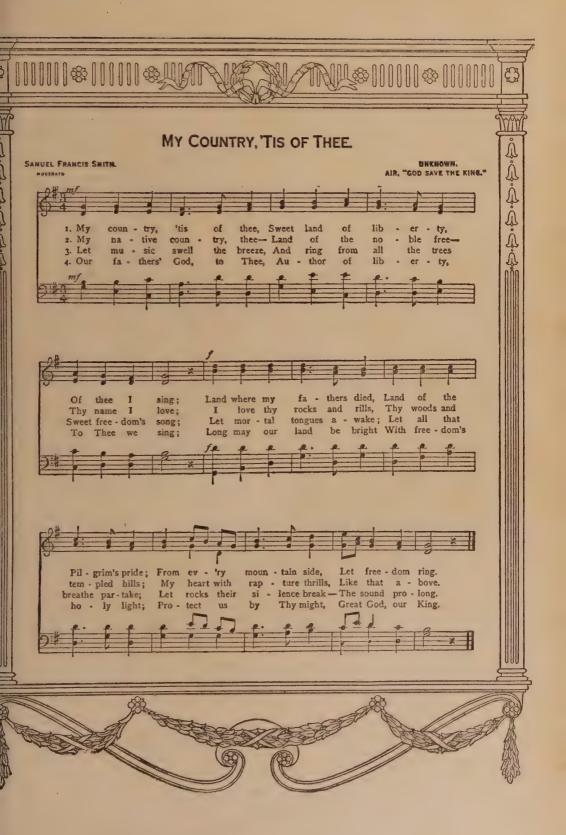
NATIONAL CAPITOL AT WASHINGTON—This magnificent structure is a monument to democracy—It covaries of 153,112 square feet—The corner-stone of the original building was laid by Washington in 1



AT OF THE AMERICAN GOVERNMENT—It is here that the American people are molding the destiny of the republic—This is where the Congress of the United States and the Supreme Court convenes.



WASHINGTON AT TRENTON—This engraving by Faed portrays the Commander-in-Chief of the American Revolution at the moment of Victory—Washington was unanimously elected by Congress to lead the American forces in the War for American Independence on June 15, 1775—He led them to triumph, after seven years of heroic struggle—Bidding farewell to his army, he resigned his commission and mission and precedence on December 23, 1783.



AMERICA-THE LAND WE LOVE

A New National Anthem

By

FRANCIS TREVELYAN MILLER and HENRY TAYLOR BLAKE

(To be sung to the tune "My Country 'tis of Thee"-See Music on Page 19)

Ι

All hail! Beloved Land!
Our own Columbia grand
Whose flag unfurled
In majesty and might
Calls with its starry light
To all who love the Right
Throughout the world!

H

Hark! From Atlantic shores,
To where Pacific roars
In ceaseless boom;
From never-melting snows,
To where the orange grows,
And lilies and the rose,
Forever bloom.

III

Hear ye the trampling hum
Of thronging peoples, come
To bide with thee!
Thy boundless plains to till,
Draw wealth from every hill,
And myriad cities fill
With industry!

IV

All! All, thy children rue;
Whatever climes we knew
For Fatherlands,
To thee, our Mother now,
In loyal love we bow,
And pledge with joyous vow
Our hearts and hands!

 \mathbf{V}

Thus Nature moves apace Building a mighty race American! To form her latest born
The varied brains and brawn
From all the nations drawn
She blends in one!

VI

O! Father of all good!
Grant that with mingling blood
And blending soul,
Perfecting nature's art,
Each nation may impart
Its noblest traits of heart
To crown the whole!

VII

Our lives we consecrate
To Freedom, Home and State
To Love and God!
To Justice—Liberty;
To true Equality;
To all Humanity—
World Brotherhood!

VIII

All hail the Age of Gold
When in that perfect mould
Peace reigns above!
Valor and Truth, with awe
For Justice throned on law
Shall rule America
The Land we Love!

IX

And in those glorious hours
When from their thrones all powers
Of Wrong are hurled!
Columbia! Still on high
Uplift thy stars to sky!
Goddess of Liberty
Lighting the World!

AMERICA

HISTORIAN'S FOREWORD

MERICA: The Land We Love"—There is no grander epic than that of a Hundred Million People gathered into one loyal nation pledged to the support of the principles of democracy and working conscientiously with their hands and intellects, their hearts and souls, to build a nation upon the foundation stones: Liberty, Justice, Equality. It is the "Odyssey" of a strong, virile people that has entered the world's arena not as a conqueror, but as the creator of a new era toward which humanity has been struggling for seventy centuries.

The record of such deeds and ideals is well worthy of a Josephus or a Herodotus. It calls for a Thucydides to narrate the heroic struggles of such a nation, a Plutarch to relate the stories of its great men, a Livy or Sallust or Tacitus to proclaim its grandeur. Here on the Western Hemisphere there has arisen a modern phoenix based on the noblest principles of Christian Civilization. Its ethical system is the perfected idealism of Plato and Aristotle; its laws are the realization of the legislation of Solon and Justinian. Here we find the sons and daughters of all the peoples of the earth gathered to create a new nation dedicated to the service of humanity.

We, who live in this second decade of the Twentieth Century—the most portentous period thus far in the world's history—are witnessing the greatest social, economic, and political revolution in the annals of mankind. Civilization is passing through the crucible; society is undergoing a metamorphosis; all races, religions, and political systems are in social convulsions. Historiologists who have traced the laws of cause and effect underlying these revolutions—or more properly evolutions—agree that these crises, rather than being a reversion to medievalism or the overthrow of organized government, are in fact the birth-throes of a new period in the history of mankind—the birth of higher ideals, more perfect systems, closer brotherhood among the peoples of the earth—a step toward a higher state of civilization, which, like the human race, is born in blood.

It is well, therefore, that we as Americans linger over these pages for a few moments to take inventory of our *national stock*, to test our abilities as a people, to weigh our resources, to survey our country, and inspect the structure of civilization that we have built. This book is an evaluation

AMERICA—THE LAND WE LOVE

of their achievements—an exposition of the products of their creation. The conventional treatment and technique of the historian have been set aside in the preparation of this book, and a more democratic treatment is used to enlarge its service and more completely meet the needs of a broad democracy.

The whole story of American civilization is unfolded in graphic narrative which will give the reader a comprehensive understanding at a glance. The Editorial Board has considered it advisable to organize this

work into Parts.

It has been deemed fitting to open this memorial volume with three messages to the American People by the three most Eminent Americans—President Wilson, and former Presidents Taft and Roosevelt. These expressions of staunch Americanism are taken from their public addresses

and form appropriate introductories to this book.

The literary pages of this book (Part I) begin with a graphic description of the United States—"America and the American People"—as they exist to-day; their magnitude and ideals,—their fiber and character. The reader then surveys in concise, visualizing style, the whole "Story of the American People" from the discovery of the Western Continent, the founding and development of the American Nation, and the wonderful growth of the American race—400 years of human activity. This includes a summary of "Great American Political Campaigns," tracing the rise and fall of the various schools of economic thought as expressed through our political parties. From this follows a clear interpretation of the "Government of the United States," showing the actual operations of its various departments.

This, in itself, might be considered a very good service to the American people, but we have desired to make this book more than a history; we have undertaken to make it a vital human record. It was Dionysius of Halicarnassus who said: "History is Philosophy teaching by experience." But Carlyle added the vital touch when he said: "History, as it lies at the root of all science, is also the first distinct product of man's spiritual nature," remarking that "histories are as perfect as the Historian is wise, and is gifted with an eye and a soul." So it is in this volume that we have undertaken to give it an "eye and a soul." We have taken the record of man's life in America and endeavored to present the sum of his achievements, with here and there an interpretation of its economic and sociological import.

Great Events are presented in Part II of the volume. It begins with the story of the "Great American Wars"—their causes and results—with a broad sketch of the battles and dramatic incidents.

HISTORIAN'S FOREWORD

The American people do not depend alone upon their prowess in war or their sagacity in politics as the chief reason of their existence. They are a people with far nobler claims to a physical and spiritual existence. Thus, in Part III of this volume we survey our *Great Achievements*, with a passing consideration of the Great American Discoveries and their contributions to Human Progress through the "Great American Inventions," proving that we are indeed the most ingenious and inventive race in the world's history. This is followed by an inspiring chapter on "American Triumphs in Engineering," the building of the Panama Canal, great bridges, huge dams, tunnels, subways, and similar achievements.

A wise old classicist once complained that "history makes haste to record great deeds, but often neglects good ones." This is indeed a just criticism, but it is quite probable that the good deeds are in fact the greatest. The final test of civilization is in the strength of its three foundations: "Agriculture—Commerce—Industry." These are the basis of all permanent society—the great "trinity" of civilization. Hence, in Part IV we have laid before our readers the static record of their civilization—a rapid glance at the Great American Industries, Mines, Railroads, Agriculture, Manufacturing—and all that represents the inventoried wealth and material interests of a nation, with a brief description of the Banking System, and its mediums for intercommunication and mutual knowledge through the great clearing houses of information and public opinion which we call the "Great American Newspapers."

Carlyle in his essays remarks that "history is the essence of innumerable biographies." And so in this volume we have introduced in Part V a series of little talks on "Great Americans." In these little fifteen minute conversations we have endeavored to discuss the essential phases of the character and work of the American people—their Great Statesmen, Soldiers, Jurists, Financiers, Scientists, Educators, Authors, Artists, Theologians, Composers, Women—with now and then a glimpse into the psychology of human action. The limitations of space, however, have allowed us only to suggest the possibilities of further study in this field of human equations, using only the foremost figures for the purpose of "teaching by examples."

The esthetic spirit of the American people is given recognition in Part VI. Here we cast a mental vision for the "Scenic Grandeur of America," and pass through the "Beautiful American Parks." We view the "Famous American Architecture" and visit the Historic American Shrines, with a brief sojourn in the "Great American Museums."

But this is not all—we live in a country so vast that no man can fully comprehend its broad expanse, its imperial greatness, who has not jour-

AMERICA—THE LAND WE LOVE

neyed over its plains and mountains teeming with illimitable wealth; it is a democracy in empire. Alcott in one of his essays truly says that "travel makes all men countrymen, makes people noblemen and kings, every man tasting of liberty and dominion"; while Fuller gives this good advice: "Know most of the rooms of thy Native Country before thou goest over the threshold thereof." And so we go on a photographic series of "Little Journeys Through the States"—forty-eight journeys through the States of New England, the Eastern States, Southern States, Middle West, Southwest, Great West, and the Pacific States—with four journeys into our Insular Possessions—Porto Rico, Hawaii, the Philippines—and a trip to Alaska. After our return from these literary journeys we may exclaim with Menander, "Hail, dear Country! I embrace thee, seeing thee after a long time," and with the poet, "O beautiful and grand, my own my Native Land!"

The subject "America—The Land We Love" embraces so magnificent a field of human action that a library of monumental works might readily be erected under this name. Alas, we have but one volume here in which to encompass half a world. It is necessary, therefore, that we keep this volume as compact as possible—inspiring the reader with its illimitable possibilities.

The material for this volume has been gathered only by exhaustive researches into more than 1,500 sources, including the Congressional Library, the Government Archives, the historical societies throughout the States, and the leading Universities. I am especially indebted to Mr. Egbert Gilliss Handy, founder of the Search-Light Library, for the collection of photographic records; to Mr. W. T. Blaine, as publisher; to Mr. E. D. Appleton, who directed the publication, and to the investigators: Mr. Walter R. Bickford, Mr. Gabriel Schlesinger, Mr. David St. Clair, Mr. Herbert G. Wintersgill, Mr. Andre Tridon.

We trust that the volume may perform its humble service to Our Country by awakening our people individually to the tremendous responsibility which rests upon them and by inspiring them to the essential attributes of a democracy—good, conscientious citizenship and the unselfish, intelligent administration of government. In this epoch of progressive Americanism, we need not pledge ourselves to that historic toast of Admiral Decatur, "Our Country! May she always be in the right, but Our Country right or wrong!" Neither need we adopt that intense patriotism of Daniel Webster: "Let our object be, Our Country, our whole country, and nothing but our country." But rather let us adopt the broader words of President Wilson—the expression of world vision and world justice: "America for Humanity!"

FRANCIS TREVELYAN MILLER.

AMERICA THE HOPE OF THE WORLD

* Message to "New Americans,"

BY WOODROW WILSON

HIS is the only country in the world which experiences constant and repeated rebirth. Other countries depend upon the multiplication of their own native people. This country is constantly drinking strength out of new sources by the voluntary association with it of great bodies of strong men and forward-looking women. And so by the gift of the free-will of independent people it is constantly being renewed from generation to generation by the same process by which it was originally created. It is as if humanity had determined to see to it that this great nation, founded for the benefit of humanity, should not lack for the allegiance of the people of the world.

You have taken an oath of allegiance to the United States. Of allegiance to whom? Of allegiance to no one, unless it be God. Certainly not of allegiance to those who temporarily represent this great Government. You have taken an oath of allegiance to a great ideal, to a great body of principles, to a great hope of the human race. You have said, "We are going to America," not only to earn a living, not only to seek the things which it was more difficult to obtain where you were born, but to help forward the great enterprises of the human spirit—to let men know that everywhere in the world there are men who will cross strange oceans and go where a speech is spoken which is alien to them, knowing that, whatever the speech, there is but one longing and utterance of the human heart, and that is for liberty and justice.

And while you bring all countries with you, you come with a purpose of leaving all other countries behind you—bringing what is best of their spirit, but not looking over your shoulders and seeking to perpetuate what you intended to leave in them. I certainly would not be one even to suggest that a man cease to love the home of his birth and the nation of his origin—these things are very sacred and ought not to be put out of our hearts—but it is one thing to love the place where you were born and it is another thing to dedicate yourself to the place to which you go. You cannot dedicate yourself to America unless you become in every respect and

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^{*} Historic Address by President Wilson delivered to New Citizens in Philadelphia directly after their naturalization, in which they swore allegiance to the United States.

AMERICA—THE LAND WE LOVE

with every purpose of your will thorough Americans. You cannot become thorough Americans if you think of yourselves in groups. America does not consist of groups. A man who thinks himself as belonging to a particular national group in America has not yet become an American, and the man who goes among you to trade upon your nationality is no worthy son to live under the Stars and Stripes.

My urgent advice to you is not only always to think first of America, but always, also, to think first of humanity. You do not love humanity if you seek to divide humanity into jealous camps. Humanity can be welded together only by love, by sympathy, by justice, not by jealousy and hatred. I am sorry for the man who seeks to make personal capital out of the passions of his fellow-men. He has lost the touch and ideal to unite mankind by those passions which lift and not by the passions which separate and debase.

We came to America, either ourselves or in persons of our ancestors, to better the ideals of men, to make them see finer things than they had seen before, to get rid of things that divide, and to make sure of the things that united. It was but an historical accident no doubt that this great country was called the "United States," and yet I am very thankful that it has the word "united" in its title; and the man who seeks to divide man from man, group from group, interest from interest, in the United States

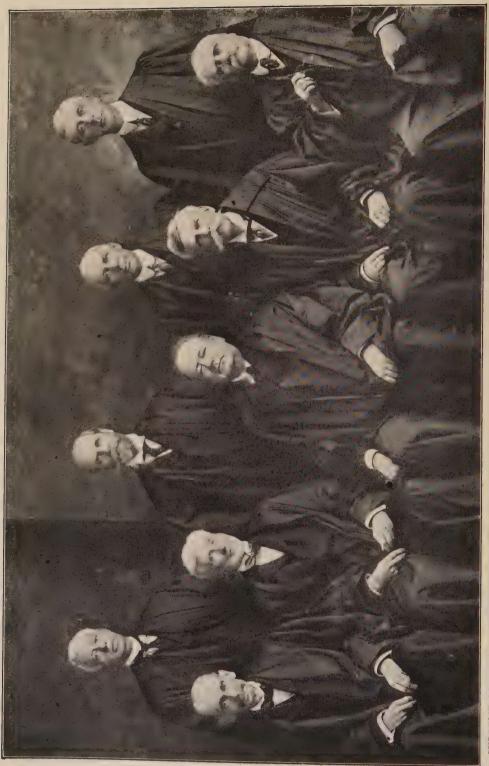
is striking at its very heart.

It is a very interesting circumstance to me, in thinking of those of you who have sworn allegiance to this great Government, that you were drawn across the ocean by some beckoning finger of hope, by some belief, by some vision of a new kind of justice, by some expectation of a better kind of life. No doubt you have been disappointed in some of us; some of us are very disappointing. No doubt you have found that justice in the United States goes only with a pure heart and a right purpose, as it does everywhere else in the world. No doubt what you found here did not seem touched for you, after all, with the complete beauty of the ideal which you had conceived beforehand. But remember this, if we had grown at all poor in the ideal, you brought some of it with you. A man does not go out to seek the thing that is not in him. A man does not hope for the thing that he does not believe in, and if some of us have forgotten what America believed in, you, at any rate, imported in your own hearts a renewal of the belief.

I was born in America. You dreamed dreams of what America was to be, and I hope you brought the dreams with you. No man that does not see visions will ever realize any high hope or undertake any high enterprise. Just because you brought dreams with you, America is more likely



BIRTHPLACE OF DECLARATION OF INDEPENDENCE—Historic Independence Hall in Philadephia—Here the Continental Congress held its sessions; Washington was appointed commander-in-chief of armies—Constitution of United States was framed,



SUPREME COURT OF THE UNITED STATES—We here stand before America's most eminent jurists—Chief Justice White sits in centre of picture; at his right are Associate Justices McKenna and Day; and at his left are Holmes and Lurton (recently deceased)—Standing are Associate Justices Lamar, Hüghes, Van Devanter, and Pitney,

"AMERICA—THE HOPE OF THE WORLD"

to realize the dreams such as you brought. You are enriching us if you came expecting us to be better than we are.

See, my friends, what that means. It means that Americans must have a consciousness different from the consciousness of every other nation in the world. I am not saying this with even the slightest thought of criticism of other nations. You know how it is with a family. A family gets centered on itself if it is not careful and is less interested in the neighbors than it is in its own members. So a nation that is not constantly renewed out of new sources is apt to have the narrowness and prejudice of a family. Whereas, America must have this consciousness, that on all sides it touches elbows and touches hearts with all the nations of mankind.

The example of America must be a special example. The example of America must be the example not merely of peace because it will not fight, but of peace because peace is the healing and elevating influence of the world and strife is not. There is such a thing as a man being too proud to fight. There is such a thing as a nation being so right that it

does not need to convince others by force that it is right.

So, if you come into this great nation, as you have come, voluntarily seeking something that we have to give, all that we have to give is this: We cannot exempt you from work. No man is exempt from work anywhere in the world. I sometimes think he is fortunate if he has to work only with his hands and not with his head. It is very easy to do what other people give you to do, but it is very difficult to give other people things to do. We cannot exempt you from work; we cannot exempt you from the strife and the heart-breaking burden of the struggle of the day—that is common to mankind everywhere. We cannot exempt you from the loads that you must carry; we can only make them light by the spirit in which they are carried. That is the spirit of hope, it is the spirit of liberty, it is the spirit of justice.

I like to come and stand in the presence of a great body of my fellow-citizens, whether they have been my fellow-citizens a long time or a short time, and drink, as it were, out of the common fountains with them and go back feeling that you have so generously given me the sense of your support and of the living vitality in your hearts, of its great ideals which

make America the hope of the world.

-Woodrow Wilson.

AMERICAN LIBERTY THE STABILITY OF FREEDOM

* Message to the American People

BY WILLIAM HOWARD TAFT

President of the United States (1909-1913)

F we would stand on solid and safe ground we must re-examine the fundamental principles of stable popular government. The history of the world seems to show that our form of government is more enduring and satisfactory than any other. We began as a small Union of thirteen states, strung along the Atlantic Coast, of three millions of people, and under the same Constitution we have enlarged to be a world power of forty-eight sovereign states, bound into one; of more than ninety millions of people, and with a humane guardianship of ten millions more -nine in the Pacific and one in the Atlantic. We have fought, beginning with the Revolution, four foreign wars, and we have survived a civil war of the greatest proportions recorded in history, and have united the battling sections by an indissoluble tie. From our body politic we have excised the cancer of slavery, the only thing protected by the Constitution which was inconsistent with that liberty, the preservation of which was the main purpose of establishing the Union. We have increased our business and productive activities in every direction; we have expanded the development of our natural resources to be continent-wide, and all the time we have maintained sacred those inalienable rights of man, the right of liberty, the right of private property and the right to the pursuit of happiness.

For these reasons we believe in popular government. Government is a human instrumentality to secure the greatest good to the greatest number and the greatest happiness to the individual. Experience, and especially the growth of popular government in our own history, has shown that in the long run every class of the people, and by that I mean those similarly situated, are better able to secure attention to their welfare than any other class, however altruistic the latter class may be. Of course this assumes that the members of the class have reasonable intelligence and capacity for knowing their own rights and interest.

Hence it follows that the best government, in the sense of the government most certain to provide for and protect the rights and govern-

^{*} Excerpt from Address delivered by President Taft on the "Judiciary and Progress" at Toledo,

AMERICAN LIBERITY—STABILITY OF FREEDOM

mental needs of every class, is that one in which every class has a voice. In recognition of this, the tendency from earliest times in our history has been the enlargement of the electorate to include in the ultimate source of governmental power as many as possible of those governed. But even to-day the electorate is not more in number than one-fourth of the total number of those who are citizens of the nation and are the people for whom the government is maintained and whose rights and happiness the government is intended to secure. More than this, government by unanimous vote of the electorate is impossible, and therefore the majority of the electorate must rule.

We find, therefore, that government by the people is, under our present system, government by a majority of one-fourth of those whose rights and happiness are to be affected by the course and conduct of the government. This is the nearest to a government by the whole people we have ever had. Woman's suffrage will change this, and it is doubtless coming as soon as the electorate can be certain that most women desire it and will assume its burden and responsibility. But even then the electorate will only be part of the whole people. In other words, the electorate is a representative governing body for the whole people for which the government was established, and the controlling majority of the electorate is a body still less numerous.

It is thus apparent that ours is a government of all the people by a representative part of the people. The object of government is not only to secure the greatest good to the greatest number, but also to do this as near as may be by securing the rights of each individual in his liberty, property and pursuit of happiness.

Hence it was long ago recognized that the direct action of a temporary majority of the existing electorate must be limited by fundamental law; that is, by a constitution intended to protect the individual and the minority of the electorate and the non-voting majority of the people against the unjust or arbitrary action of the majority of the electorate.

This made it necessary to introduce into the Constitution certain declarations as to the rights of the individual which it was the purpose of the whole people to maintain through the government against the aggression of any temporary majority of the electorate and to provide in the same instrument certain procedure by which the individual might assert and vindicate those rights. Then, to protect against the momentary impulse of a temporary majority of the electorate to change the fundamental law and deprive the individual or the voting minority or the non-voting majority of inalienable rights, the Constitution provided a number of checks and balances whereby every amendment to the Constitution must

be adopted under forms and with delays that are intended to secure much deliberation on the part of the electorate in adopting such amendments.

I cannot state the necessity for maintaining the checks and balances in a constitution to secure the guarantee of individual rights and well ordered liberty better than by quoting from Daniel Webster. He said:

The first object of a free people is the preservation of their liberty; and liberty is only to be preserved by maintaining constitutional restraints and just divisions of political power. Nothing is more deceptive or more dangerous than the pretence of a desire to simplify government. The simplest governments are despotisms; the next simplest, limited monarchies; but all republics, all governments of law, must impose numerous limitations and qualifications of authority and give many positive and many qualified rights. In other words, they must be subject to rule and regulation. This is the very essence of free political institutions. The spirit of liberty is, indeed, a bold and fearless spirit; but it is also a sharp-sighted spirit; it is a cautious, sagacious, discriminating, farseeing intelligence; it is jealous of encroachment, jealous of power, jealous of man. It demands checks; it seeks for guards; it insists on securities; it intrenches itself behind strong defences and fortifies itself with all possible care against the assaults of ambition and passion. It does not trust the amiable weaknesses of human nature, and therefore it will not permit power to overstep its prescribed limits, though benevolence, good intent and patriotic purpose come along with it. Neither does it satisfy itself with flashy and temporary resistance to illegal authority. Far otherwise. It seeks for duration and permanence. It looks before and after; and, building on the experience of ages which are past, it labors diligently for the benefit of ages to come. This is the nature of constitutional liberty; and this is our liberty, if we will rightly understand and preserve it.

I agree that we are making progress and ought to make progress in the shaping of governmental actions to secure greater equality of opportunity, to destroy the undue advantage of special privilege and of due advantage of special privilege and of accumulated capital, and to remove obstructions to the pursuit of human happinesss; and in working out these difficult problems we may possibly have, from time to time, to limit or narrow the breadth of constitutional guarantees in respect of property by amendment.

But if we do it, let us do it deliberately, understanding what we are doing, and with full consideration and clear weighing of what we are giving up of private right for the general welfare. Let us do it under circumstances which shall make the operation of the change uniform and just, and not depend on the feverish, uncertain and unstable determination of successive votes on different laws by temporary and changing majorities.

-WILLIAM HOWARD TAFT.



GOVERNMENT OF THE AMERICAN PEOPLE—House of Representatives in session at Washington—President Wilson is reading his message—There are three branches to Federal Government: Executive, Legislative, Judiciary—Legislative branch consists of the House of Representatives and the Senate.



GREAT AMERICAN POLITICAL CAMPAIGNS—National politics are separated into groups of political thought—These parties appeal to the people for support at the various elections

Photograph was taken during Republican Convention in Chicago.



NOMINATING A CANDIDATE FOR PRESIDENT—This is a glimpse of the Democratic Convention at Baltimore when Woodrow Wilson was nominated—The delegates to these conventions gathered from every State in the Union to select the standard bearer,

AMERICAN IDEALS LIBERTY—JUSTICE—EQUALITY

* Message to the American Nations

BY THEODORE ROOSEVELT

President of the United States (1901-1909)

VERY great modern civilized state, every state of vast industrial possibilities is faced with very complex needs. In grappling with American problems the average man is apt to pin his faith to half truths. In certain cases the ordinarily accepted ideal and the ordinary practice are diametrically opposed to each other. most striking example of this kind is the contrast between our avowed ideals and our customary practices in regard to property, wealth and riches. Many closet philosophers and many demagogues sneer at material wealth and advocate as a matter of theory complete disregard of it; and this is the position taken, purely as a matter of theory, by a large number of the men who speak of wealth from the pulpit or the rostrum. In practice a very much larger number of men make wealth their god and pay no heed to any moral laws that bar the way to its acquisition. Here each side has seized a half truth which, by itself, spells destruction; the theory represents hypocrisy and the practice represents a base and degrading materialism.

Speaking generally, it is true now as it was true in the days of the Hebrew seer, that the most useful citizen is apt to be the man who is neither bowed by grinding poverty, nor rendered arrogant by excessive wealth. Normally a man must earn enough to support himself and those dependent upon him in reasonable comfort before he can be of use to the community at large. In the same way the community itself must possess a reasonable average of material well being before it can take its part in advancing the great movements which make all that is worth having in our modern civilization.

Therefore, it is essential that there shall be material prosperity in the State, that railroads shall be built, that ranches and farms, business houses and factories, shall prosper. To rail at such prosperity is not evidence of a sound heart. It is merely evidence of an unsound head. Entirely unregulated and uncontrolled individualism under the conditions of modern industrialism would lead to a condition of anarchy, injustice and misery as frightful as the condition of anarchy, injustice and misery

^{*} Excerpt from Address delivered by President Roosevelt in Buenos Ayres, Argentine.

produced by the unchecked military individualism of the robber baronage in the dark ages. Moreover, this unchecked individualism would destroy itself. . . .

We wish to destroy neither collectivism nor individualism. We wish to use so much of collectivism as will form the best basis for an altruistic individualism; an individualism which is self-reliant but which heartily respects the rights of others. In the industrial world this means that there are some things that the State can do which the individual should not be permitted to do; some things which should be left to uncontrolled individual action and some things which should be left to individual action exercised under strict governmental control. Where the line should be drawn in any case is a mere matter of expediency.

It is the business of the State to secure a measurable equality of opportunity so that each man shall have the chance to show the stuff there is in him. Each man should have what he earns and should not have what any one else earns. There is wide inequality of capacity and character among men; and therefore it is wise and just that there should be inequality of reward, because the reward should bear some proportion

to the service rendered.

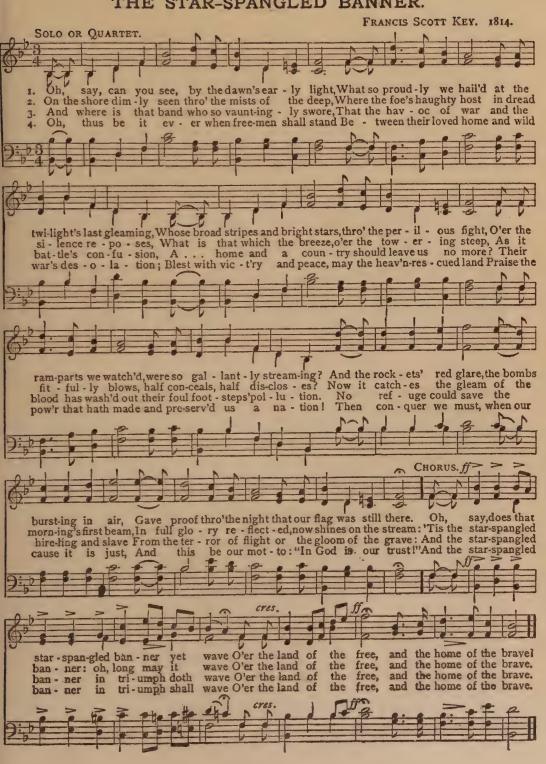
At present in the world of industry the difference in the reward of the man at the top and the man lower down is often well nigh infinite, and represents a travesty upon justice. And moreover the difference between the reward given the man who merely handles the money and the reward given the man who actually handles the men and machinery is wholly disproportionate to the difference of service. We propose sanely and cautiously but resolutely to strive to reduce this inequality and to bring about a condition of affairs more nearly corresponding to justice. As I have before said, we agree with the seer of old that the best ideal for a man is neither to suffer grinding poverty nor to possess excessive riches. . . .

We do not intend to destroy property. We intend to protect property. But we intend to strive for a juster and fairer correspondence between the possession of property and the service, whether of mind or of

body, which warrants such possession.

Men of valiant soul must be the lords and not the servants of what they have themselves created. As long as strength is given us with cool heads and fearless hearts we shall war unceasingly against what is evil and for what is good, so as to bring nearer the day when justice shall be done every man, every woman and every child within the borders of the great free commonwealths to which we belong.

THE STAR-SPANGLED BANNER.



AMERICA—INSPIRING TRIBUTES

MERICA is like a great sleeping giant—with its head at the North Pole and its feet at the South Pole. Its arms stretch from the Atlantic to the Pacific. Here it slumbered through the geological ages. Four hundred years ago men came like pigmies and ran over its huge body; meeting in deadly combat on its breast; lifting the lids of slumbering eyes and peering into their depths; putting their ears to the huge heart and listening to its mighty beats like the hammer stroke on the anvil. Its breath is like the tornadoes; its nostrils are great caverns leading into the recesses of life; its lips are strong and decisive, and in its voice there is the prophecy of the future of man.

One hundred and forty years ago the huge giant moved; he opened his eyes and became conscious of his existence; soon he began to stretch his limbs; he broke the bonds that held him down.

Through the Nineteenth Century, he struggled to his feet; he rose in his might to a standing posture; he tested his huge muscles like Vulcan and there was born a new iron age; he swept the fields like Ceres and they burst into harvest; he wielded the ax like Ajax and the forests fell and were transformed into great cities; he swept the rivers and seas like Neptune and they became great channels of commerce. Like Argus, he had a hundred eyes that delved into the mysteries of the Universe; he pulled the lightning from the skies; he flashed messages around the earth; he turned night into day. He arose and stands to-day like Atlas supporting the world on his shoulders. This is America—the land which in the next generations is to be the dynamic force behind civilization.—Francis Trevelyan Miller.

HERE she lies, the great melting pot. Listen! Can't you hear the roaring and the bubbling? There gapes her mouth—the harbors where a thousand mammoth feeders come from the ends of the world to pour in their human freight. Ah, what a stirring and a seething. Celt and Latin, Slav and Teuton, Greek and Syrian, black and yellow, Jew and Gentile. Yes! East and West, the palm and the pine, the pole and the Equator, the crescent and the cross, how the great alchemist melts and fuses them with his purging flame! Here shall they all unite to build the Republic of Man and the Kingdom of God. Ah, what is the glory to come . . . where all nations and races come to worship and look back compared with America where all races and nations come to labor and Look Forward!

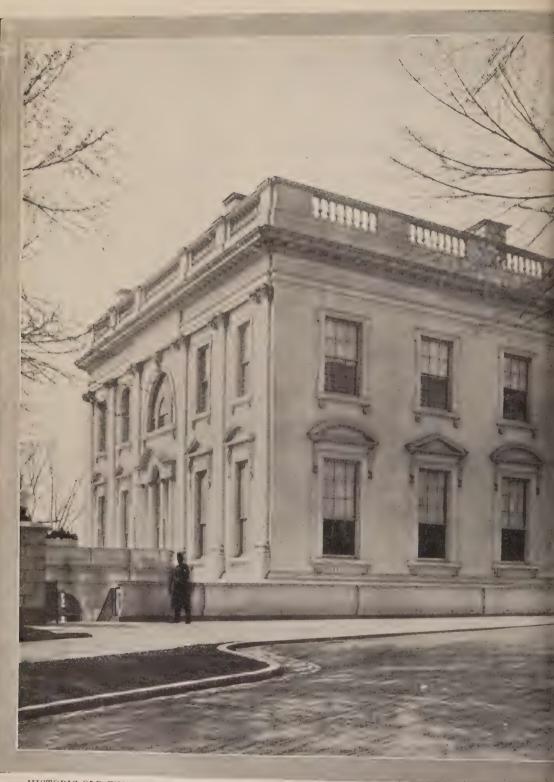
-ISRAEL ZANGWILL.



EXECUTIVE OFFICES OF THE AMERICAN NATION—Administration Building on White House grounds in Washington—It is here that the executive staff conducts the public and private business of the President.



SCENE OF MANY HISTORIC BALLS—East room in the White House at Washington—Here the ambassadors of the nations and the world's greatest celebrities have gathered in brilliant throngs in this magnificent room.



HISTORIC OLD WHITE HOUSE AT WASHINGTON—This imposing structure was begun in 1792—First occupied by President Adams in 1800—It was burned by the British in 1814 and re-built four years later--The structure is 170 feet long, 86 feet deep, and two stories in height.



FFICIAL RESIDENCE OF PRESIDENT OF UNITED STATES—We enter the colonial mansion through an Ionic portico—Among the reception rooms on the first floor are the Blue Room used for diplomatic functions; the East Room used for public receptions, and the Red and Green Rooms.



HIGHEST BUILDING IN THE WORLD—Woolworth Building in New York City—It towers 55 stories high—These modern skyscrapers contain as many people as many flourishing towns—Structures rise from ten to twenty stories in nearly all large cities of United States.

AMERICA AND THE AMERICANS

"We hold these truths to be self-evident, that all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness."

MERICA for Humanity"—This is the key-note of the America and the Americanism that stands before the world to-day as the champion of the new era of World Democracy—Liberty, Justice and Equality for the peoples of the earth. There are in the great human family to-day nearly 2,000,000,000 people. They are divided into about seventy groups or nations—each working out its own form of government and its own social and economic system—the success or failure of which fixes the individual destiny of each nation. There is among them, with their diverse and conflicting interests, but one nation that is founded from its origin on the rock-bed of Democracy and which stands to-day, and always has stood, for world brotherhood—pledged to the principle that "government of the people, by the people, for the people, shall not perish from the earth."

It is in the new light of this high standard of "America for Humanity" that we open the pages of this narrative of the American people with a brief exposition of Our Country—its magnitude, its ideals, its history and government, with an inspiring vision of its tremendous possibilities. Its true power, its real purpose, and unmistakable destiny loom upon the horizon of the nations as the greatest discovery of the human race in its

entire annals.

It is freely predicted—not only in the United States but by the most far-sighted men in Europe—that within the present century America will economically, morally and spiritually instill a new spirit into the world that will exert a stronger power to an infinitely greater degree than that by which Greece intellectually dominated the mind of the race, or the Roman Empire ever legally swayed the conduct of men, or by which the British Empire commercially stamped its fiat on the world's trade. Within that brief time, to come within the actual experience of many of the people now living, America will become not only the greatest and most powerful nation ever conceived and brought forth on this earth by

sheer moral and economic pressure, but it will give the marching order to the world—and that marching word will be "humanity." War or peace for the world will be held eventually in the hollow of America's giant hand.

What a monumental prophecy to confront the reader in the outset in these pages! Is there any foundation for it? Or is it nothing more than the revival of the outbursts of pride that were common in 1800, 1830, and 1850 and later? Its basis is facts—real and tangible, as we shall see in this survey of the achievements of the American people. Every man with an understanding of history cannot help but see what is to be. What is America for? Why was this greatest continent in the temperate zone flung up from the floor of the ocean, far from Europe with its multitude of races and tongues, and far from Asia with its color and interminable gulf of races? Spread a map before you, turn these pages, and look at our home. Hear the thunder of the surf from the earth's two great seas on our shores. Look at the men mingling—white faces, yellow faces, red faces—brown faces, black faces—every son of the earth. Listen to their speech; store in your memory its melody; fill your soul with its inspiration.

The American Continent was created for the sole, supreme purpose of making a definite, permanent beginning of the uniting of representatives of all the human races on this earth into one nation. It was set apart from the other continents to protect this work from invasion and interruption. It was abundantly furnished with every gift of nature to carry out this supreme purpose. The Indians came here savage; the world was not ready for the beginning of work. The Norsemen came here 900 years ago to leave only a tradition; the world was still unready. But with the close of the dark ages in Europe, some four hundred years ago, the clock of destiny struck the beginning hour for the uniting of all the races. Then there were guided to this continent the representatives of the foremost race of men at that time. There was no accident in it—it was nothing less than the greatest movement in the historical procession of evolution.

The discovery, settlement and development of America is the greatest thought ever evolved by the human mind, for it is nothing but the mind of man opening for itself a new world of aspiration, imagination, and achievement. It came at one of the darkest, if not the darkest hour in the annals of the race. The kings of Europe were forging new shackles for the people; there was intense restlessness; a barbarism more terrible than that of Attila or Ghengis Khan seemed to threaten Western Europe. Had the New World then not flecked the horizon of men's hopes, the civilization of Europe would in all probability have been irretrievably

AMERICA—AND THE AMERICANS

lost. John Fiske says it saved the race from a cataclysm, for it came to it as good news comes to a man on the point of committing suicide.

The American Continent is, therefore, the continent of "hope" for all the peoples of the earth. A land, for the work such as the American continent is designed for, must not only be difficult for any single race to reach and conquer, but it must possess an unparalleled magnitude and opulence to house and accommodate countless numbers of all the races. Such a land must not only be able to protect itself from all enemies to the principles which it proclaims to the world, but by the sheer magnitude of its size, numbers and material success it must strive to impress its moral example upon the world. No small country could assume this responsibility. No country surrounded by numerous competitive nations could set up this work. No place in Europe or Asia could shelter the operations of such a gigantic task. England, by virtue of its island location, has served as a stage in this evolution. Remarkable is the fact that to-day the races of no one continent flourish to any high degree on the other continents, except in America. Nowhere has the negro ever been able to live even as a slave outside of Africa, except in America. Every effort to acclimate the black man in Europe has failed. Europe knows neither Chinese nor Japanese as they live in America. These races do not prosper in Australia or New Zealand as they do in the United States. And everywhere outside of Europe have the European races tended to deteriorate, except in America where they have markedly improved on the old stock.

The uniting of the races into one nation means first of all liberty and peace. The whole history of the world cruelly demonstrates that the races cannot be united by the sword and political servitude. To cut down one race or nation is to raise up half a dozen new and stronger enemies. No man who left Europe in the 16th, 17th and 18th centuries for America had a thought that he was coming to a land where his descendants would ultimately merge into the one new race with descendants of men he neither knew nor liked. His only idea was liberty and peace, and for three centuries America has grown on this idea; out of it has come confidence, tolerance, sympathy, freedom. Everything has gone into this melting pot.

We are at last beginning to see the whole world (and the whole world is beginning to see us) through the eyes of Patrick Henry and Thomas Jefferson and Abraham Lincoln. We hear the note of humanity sounding high and clear above the thunder of World War. That note of humanity is a world-note, a union-race note, a one-race note, the note of the cross. When Lincoln put his Emancipation Proclamation on the wires, he sent that same note down into every mansion and cabin of

the South. When America sent it as a world warning to Europe in 1915, it sounded like the small voice of conscience in the heavens. But it penetrated through the purlieus of White Chapel and Cuxhaven; it entered the lacquered doors of the Wilhelm Strasse and Shönbrunn Palace.

Look for a moment at this continent through the eyes of Professor Shaler, the eminent geologist. This great scientist traversed on foot every continent on the globe, studying not only its earth formation, its minerals, its soil, its sunshine, its rainfall and climate, but its human habitations. He says that the part of the American Continent occupied by the United States and Canada is incomparably superior for the habitation of the human race to any like area elsewhere. When we speak of the magnitude of the American Continent, figures swell and grow like mighty rivers. Men now habitually think in millions and billions. A big thing is a commonplace thing unless it is the biggest thing of its kind in the world, for in this country we dearly love the colossal—it appeals to the American imagination.

Such leading facts of physical magnitude, power and superiority as relate to the continent as a whole, have, according to Lord Bryce in the new edition of his "American Commonwealth," tended to make the American multitude quantitative rather than qualitative in their ideas of their country. We would reply that in America magnitude in ideals backed by magnitude in natural resources is the true American claim. President Wilson recently said in a speech that it took a great people to conquer a great continent and has written the following words on this subject: "It has been pronounced grotesque that mere bigness and wealth should be put forward as the most prominent grounds for the boast of greatness. The obvious fact is that for the creation of the nation, the conquest of her territory from nature was necessary; and this task which is hardly completed has been idealized in the popular mind."

America never could fulfill its destiny without not only retaining this sense of magnitude, but recreating it as the mould for making its impression on the world in terms for realizing its own power and performing its great duty to the world. We shall in later chapters discuss American invention, science, education, arts, and the intellectual and spiritual forces that constitute true greatness, but let us first measure our

physical proportions and physical power.

Our country is continental in its magnitude. It is the only land under one flag, occupying an area of more than three million square miles, wholly within the temperate zone and washed by the world's two great seas. No other country of the same area within the temperate zone possesses so much arable and habitable land as the United States. Russia



MONEY CENTER OF THE WESTERN WORLD—Wall Street, New York, showing the Stock Exchange and Morgan Banking House—This thoroughfare ranks among the three most important (financial centers in the world.



GIANT SKYSCRAPERS OF WESTERN HEMISPHERE—Brilliant night scene in New York showing the light in Metropolitan Tower, overlooking Madison Square—This structure is 50 stories high or 700 feet, three inches,

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has more land in the temperate zone, but far less that is fertile, productive and habitable to the degree of our American land. More of the earth's population can develop itself here, can find raiment and shelter and take root and flower and fruit into a surpassing civilization. There are, as we have observed, according to a German statistician, about 2,000,000 human beings on this planet. America, and only America among the nations, and even among the continents, has the capacity to feed and house every family of this vast humanity and to give each one of them a far more comfortable home than the great majority of them now have, according to the opinion of more than one economic authority.

If America can feed and house the world let us for a moment suppose that the whole human race were now here. Try first to conceive in the mind what is the size of the human race gathered in one city where the people live as close to one another as they do in New York. This number of people would make 320 New Yorks, and 320 New Yorks would cover only that small part of the country from New York City to within thirty miles of Buffalo. The present population of the United States, if it were possible to live in one city, would make a city twenty times the size of New York. But with this population scattered over this vast country there are only 33 persons on the square mile. If the world and all its kin lived here there would be 533 persons to the square mile and that would mean every mile, including Pike's Peak and the Grand Cañons and the Great Desert. But England has almost as many people to the square mile as that; Belgium has more. Yet we are told that so rich and inexhaustible is America in the gifts of nature that all these people could live here in the present state of science far better than the people of China or India live to-day.

This gives us an idea of the inexhaustible power of nature in the United States. Germany occupies a large area on the map of Europe; it has 67,000,000 population, 208,780 square miles, and is the third richest country on the globe. We could put at least 14½ Germanys in the area of the United States. But we have one State—Texas—where Germany itself could be laid down and Texas would remain uncovered. Moreover, Texas could be made to produce more from its soil than does Germany. You can very easily place 14½ Frances in the United States. France has an area of 207,054 and 39,000,000 population. Fifty-two Englands can be put down on the map of the United States. If England were placed on the State of New York only a little of it would lap over upon the State of Pennsylvania. England could be put down in California 2½ times; in Texas 4½; in New Mexico 2½1; in Arizona nearly twice; in

Nevada 134 times.

Nowhere on this planet in an equal area is there such an equal distribution of sunshine and rainfall. The mean annual rainfall of twenty-nine inches is so extensive that every square mile of the great Southwestern Desert can be abundantly irrigated without depleting the water supply elsewhere. With all the violent changes of climate on the North Atlantic seaboard and around the Lakes, we have a climate ranging between 40 and 70 degrees Fahrenheit. The European climate, including Russia, ranges from 70 to 30. Nowhere over so vast a territory is there so little fog as in America.

We have seen the possible capacity of the United States and the magnitude of its area—now let us assay our natural wealth. We have another sort of magnificence of magnitude to which we claim distinction. It is in what we have wrought out of this country since we came into possession of it. The national wealth of a country with its periodic growth and present sum, is the most concrete, tangible expression of the nation's power in the world. It represents most nearly the moral, mental and physical energy of a whole people that can be expressed in physical terms. If it is hoarded and stagnant wealth the energies of the nation may be dying with its wealth in its coffers. If it is dishonest, stolen wealth it may destroy the nation possessing it. The wealth of the United States is anything but stagnant or hoarded, and it is probably the most honestly accumulated wealth in the world. Forty years ago, Carlyle said the American people boasted of doubling their population every twenty years -"doubling their dollar chasers." John Fiske retorted: "The Europeans double their population now and then and just as often double their scalp chasers."

The United States is by far the richest country on this globe in national wealth. It is almost as rich as both England and Germany added together and at its present rate of progress it will surpass them both within five years. Its national wealth was estimated in 1915 at the enormous figures of \$150,000,000,000.

How much was the Roman Empire worth? Bear in mind that when the Roman Empire was at its height of power, the whole known world occupied a place in the world of its day comparable only to the whole planet of the present. Some one has estimated from what historic data that is available that the wealth of Rome in the days of Julius Cæsar 50 B. c. could not have exceeded \$20,000,000,000 in our money. The American people produced more wealth last year than the whole world was worth 2,000 years ago, when it stood at its supreme height and power in ancient history. It is hard to clutch cold black figures in the mind, but try to realize what is undoubtedly a fact that the State of New York

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is giving to the world more dynamic energy and power than the whole Roman Empire ever generated. New York City alone is doing more work to-day than the whole world did in the days of Augustus Cæsar.

But now let us make some comparisons of the wealth of the United States with the other richest nations in the world. We find in the last statistical statement of 1910, these twelve nations ranked as follows:-United States \$120,000,000,000; Great Britain and Ireland \$68,-000,000,000; France \$45,000,000,000; Germany \$43,000,000,000; Belgium \$7,000,000,000; Spain \$5,000,000,000; Netherlands \$5,000,-000,000; Portugal \$2,000,000,000; Switzerland \$2,400,000,000. At the end of 1914 they stood as follows:—United States \$150,000,000,000; Great Britain \$85,000,000; Germany \$80,000,000; France \$50,000,000; Russia \$40,000,000; Austria-Hungary \$25,-000,000,000; Italy \$20,000,000,000; Belgium \$9,000,000,000; Spain \$5,400,000,000; Netherlands \$5,000,000; Switzerland, \$4,000,000,-000; Portugal \$2,500,000,000. In the next five years there was an enormous increase. The German Empire rose to \$80,000,000,000 and the others made large advance while the United States reached \$150,000,-000,000.

Nothing can more truly reveal the overwhelmingly increasing power of America among the nations. The Russian Empire is the greatest land empire in the world, but America has produced enough wealth since 1907 to buy the Czar's entire dominions under the hammer. Our railroads are worth more now than the entire kingdom of Italy. Our harvest this year would more than buy the whole of Spain or the Netherlands. The products of our mines would more than purchase Portugal. The values that we have added to our farming lands and city lots within the last fifteen months would buy the little mountain republic of Switzerland. Our harvests this year, and the values that we have added to our national domain by buildings within the last twelve months, and other real estate improvements, are worth more to-day than this whole republic was worth in 1850; its wealth then did not exceed the modest sum of \$7,000,000,000,000. England then had nearly three times our wealth, and France was not far behind England.

What does \$150,000,000,000 mean to the imagination? With this sum of money the United States could buy nearly twenty cities, each as wealthy as New York. It could pay for Germany and France, or France and Russia, with enough left over to purchase Spain and Portugal. It could buy thirty Spains, thirty Hollands, three Frances and nearly four Russias. It could buy out all the railroads of the world and then leave enough to pay for England. If this money could be put on interest one

year at six per cent the interest would more than pay the public debt of the United States three times. This interest could build a fleet of 500 super-dreadnoughts. One-sixth of this interest could build a fleet stronger than all the navies of the world to-day. This interest for two years could build and equip all the railroads in the United States, and all the roads of the world in four and a half years. If this national wealth were equally divided among the people each person would have about \$1,500.

We Americans enter our claims to distinction and stand before the judgment of the World on the record of our achievements which will be presented in the following chapters in this volume. We shall show that we have the continent; we have the natural resources; we have the population; we have the form of government; we have the ideals, indomitable will, perseverance, resolution—all the elements essential to the building of a great nation. We claim, moreover, that in the 140 years of our national life we have made greater progress toward this achievement and have contributed more liberally to civilization than has any other nation in so brief a period within the records of mankind.

Human progress is an admixture of all the powers mentioned, plus spiritual force and economic determinism. As the philosopher said: "All growth that is not toward God is growing to decay." Nations are but groups of men and are subject to the same laws of physical, moral, and intellectual development. The whole spirit of human progress is embodied in the American people—possibly more so than in any other people on the earth. We have the determination, industry, inventive genius and decision to become great, and we have the inventive genius to translate these qualities into action—stupendous action.

We entered the arena of the world's activities less than a century and a half ago and we speeded up human progress; we broke the chains that stayed it; we gave it momentum; we emancipated human progress and inspired the world with new ideals, kindling new hopes in the hearts of mankind, and opening up new and larger opportunities for the growth of the human race.

We have set up on the Western Hemisphere a new model for humanity. We realize that nations with similar ideals have passed their brief existence and gone to decay—such as the democracy of Greece and the republic of Rome. But we can only say with the Bishop Berkeley "On the prospect of planting arts and learning in America":

"Westward the course of empire takes its way, The four first acts already past, A fifth shall close the drama with the day; Time's noblest offspring is the last!"



GREAT INDUSTRIAL CENTER OF MIDDLE WEST—The commercial growth of Chicago is one of the miracles of the development of the West—It is one of the chain of cities that have made the Great Lakes the most active inland sea in the world.



SECOND LARGEST CITY IN UNITED STATES—Chicago lies on the southwestern shore of Lake Michigan—This city has grown to enormous magnitude with the development of the West—It was settled about 1777—First migration began about 1830,



LARGEST CITY ON WESTERN COAST OF AMERICA—San Francisco ranks ninth in population; seventh scaport in commercial importance—It was visited by Europeans in 1769, incorporated in 1850—It is an active force in the development of the nation.



GOLDEN GATE TO THE ORIENT—The Bay of San Francisco forms a magnificent harbor about ninety miles long and from five to fifteen miles wide—Regular lines of steamships connect with all the ports on the Pacific Coast and countries of the far East.

PART I

NARRATIVE HISTORY OF THE AMERICAN PEOPLE

"A thousand years scarce serve to form a state; An hour may lay it in the dust."

-Byron.

"Let me entreat you, gentlemen, on your part, not to take any measures which, viewed in the calm light of reason, will lessen the dignity and sully the glory you have hitherto maintained. . . . You will, by the dignity of your conduct, afford occasion for posterity to say, when speaking of the glorious example you have exhibited to mankind: 'Had this day been wanting, the world had never seen the last stage of perfection to which human nature is capable of attaining.'"—Washington,

of American progress; a romance ennobled by the stern duty of a purposeful people; a people inspired in a Great Cause; a cause as heroic and courageous as that of the old Crusaders—the planting of the standard of triumphant democracy before the whole world. It is frequently charged that the Americans have no background—that we are a "colorless" people, with no tales of adventure, no deeds of daring to relate, no heroic episodes in our life story. This common belief is indeed a legend in itself, for the progress of the American people is one continuous epic filled with dramatic power and tense in its human emotions, with perhaps the most picturesque characters that have ever trod the highways of human existence. It is a romance more heroic than that of ancient Greece, sturdier than that of the old Romans, more chivalrous than the days of knighthood, because it is the romance of nation building and there is no more heroic adventure in the episodes of mankind.

America is the borderland of chivalry, but it is the chivalry of a courageous, lion-hearted people, conquering a continent, subduing wild beast and savage, fighting its way through dense forests, through ravines and mountain gorges, over snow-clad peaks, fording mighty rivers—and subjecting them all to the will and utility of man. It is quite true that in America there is no glitter of hauberk, helm, and lance, and ladies did not ride with hawk on wrist, but the trumpet sounds and the banner waves, while mighty men blaze their way across a hemisphere, bridging rivers and canyons, harnessing the torrents and floods, conquering the rock barriers of mountains, causing great cities to rise from the vast forests, and com-

manding the wilderness to blossom and the earth to disgorge its hidden riches.

The Great Adventure—Days of American Knighthood

ET us pass in procession before us the four hundred years of pageantry, in which we look upon the men and the events that have laid the foundation of the American nation. The march of American civilization begins with what we might call the Great Adventure—the period of Discovery from the year 1000 to the first permanent settlement in the New World. It begins with the daring sea tales of the Vikings and the sea rovers, bold Spanish explorers, gallant English navigators, debonair French adventurers, monks, courtiers, knights—a wonderful procession of strong characters that appeal strongly to the imagination. Here we meet the hardy old Norsemen, whose adventures brought them along these shores in the days of the sea rovers, whom the storms tossed from the oceans on this side of the earth.

These were the days when gentlemen of adventure and knights of fortune were roving the unknown seas to find new lands of fabulous riches. It was a partnership between kings, bankers, and adventurers which began this period of world discovery; it was a business speculation in which the profits were distributed among the several interests. They started forth not only to stake out the earth and claim dominion over it, but to own and control the sea-routes—to charter and lease the oceans—to claim absolute monopoly over the universe, or as much of it as they might set foot and plant their standards upon. It is interesting to note that these early expeditions were not for the purposes of scientific discovery or geographical exploration but wholly for trade and empire—they were purely speculations for profit, a game played for big stakes by the Old World monarchs and financiers. It is interesting further to note that out of this business speculation should develop not only the world's greatest democracy—the greatest business nation in the world, but a nation that has broken down all the despotic privileges of the Old World and stands for complete freedom of the seas and absolute justice and equality on land.

There looms before us in this period of adventure the tall figure of a Genoese—a man with an idea, with a business proposition. He is willing to promote a venture for the purpose of laying claim to a new route to the Far East by the way of the western seas if he can secure sufficient financial backing. This man was Christopher Columbus—and the result of his achievement was the discovery of America. Columbus, in command of an expedition of three ships sent out by the King of Spain, sailed in August, 1492, on his voyage to reach Asia by sailing westward on the Sea of

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Darkness (the Atlantic). It is a great sea story—with its mutinies, chains, storms, hunger, and desperation—above which looms the determined countenance of Columbus. After leaving the Canary Islands, the first land that he sighted was one of the Bahamas—on October 12, 1492—and, though he believed that he had reached Asia (a belief which he carried to his death), he was the discoverer of a New World. It is interesting to recall that in this same year occurred one of the most momentous events in European history—the capture of Granada by the armies of the heroic queen—Isabella of Castile—who pawned her jewels in order to assist Columbus in his great enterprise, and the definite expulsion from the Iberian Peninsula of the Moors, who had occupied it for 700 years.

Columbus made three or more voyages to the New World, which he called the Indies, from which fact the natives of these continents have ever since been known as Indians. The tragic end of Columbus, his overthrow by his political enemies, his trial, imprisonment, and death are great studies in human psychology—plots more intense in their action than

dramatists have ever been able to conceive from the imagination.

It was a picturesque group of adventurers that crossed the seas in the wake of Columbus—hardy old navigators from Spain and Portugal followed his lead and quickly found the mainland. The first of these was Americus Vespucius, an Italian in the employ of Portugal—and from him the land received its name, when a German geographer issued a little book in 1507 about the new discoveries, and, because Americus Vespucius was the first European to sight the mainland, named it in his honor—America.

Then came Balboa, a Spaniard, who crossed the Isthmus of Panama in 1513, fighting fever, beasts, and Indians, traversing swamps and mountains under the tropical heat—and discovered what he called the South Sea—the Pacific. Soon we see Ponce de Leon, another Spaniard, in search of a fountain of perpetual youth, who first came upon Florida (1513); and his countryman, Pineda, exploring the shores of the Gulf of Mexico (1519).

At this time the great cataclysm of the Reformation burst over Europe. But this movement little affected the Iberian powers, bent on adventure and conquest, led on by the two motives of avarice and zeal—and the zeal was

ever for the ancient religion.

It was not until an expedition commanded by Magellan, a Portuguese, circumnavigated the earth in 1519, that it was definitely known that Columbus stumbled upon a new continent which blocked sailing directly to the Orient, instead of having reached the Orient itself. On came the Spaniards, exploring the interiors of these new lands, and in 1565 founded the settlement of St. Augustine in Florida—the first settlement of Europeans

in what is now the United States. Thus we owe to Spain the beginning of

civilization on the Western Hemisphere.

Tales of incalculable wealth-gold, fur, hides, precious woods and metals-soon began to be told in the inns of England where the navigators gathered. The English adventurers had been liberally financed by the Government and the bankers in their East Indian ventures, which were beginning to pay large profits in spices and silks. Their attention now turned to the new America. An English expedition under the command of John and Sebastian Cabot, Italians, explored what is now our Atlantic seaboard (1497); but it was nearly a century before other English expeditions came to the New World. Frobisher, seeking a passage through the continent to Asia, found the bay which bears his name (1576), and Drake, after rounding the Horn, explored the coast of Oregon and stopped for a time in what is now the Bay of San Francisco (1579). Sir Walter Raleigh, a favorite of Queen Elizabeth, attempted to make a settlement at Roanoke Island in 1585, but it was a failure. The returning settlers took back with them tobacco and potatoes-novelties for Europe-and the Western Hemisphere began to be spoken of as a land of opportunity for permanent colonization.

Meanwhile, in the Old World, Shakespeare was inditing his immortal works, Spenser was extolling the charms of the "Faërie Queenes." It was the Elizabethan Age of English literature—only comparable in the world's

history to that of Pericles or Augustus.

The first permanent settlement of the Anglo-Saxon race in what is now the United States was that at Jamestown, Virginia, founded in 1607. There were 4,000 colonists in the province within thirteen years. When it was ordered that the inhabitants of the eleven boroughs in which they lived should send representatives to a legislature to be called the House of Burgesses, the first representative body in America came into existence (1619); and in the same year a Dutch ship arrived and sold twenty negro slaves brought from Africa, thus establishing another institution—slavery.

It is at this time that we receive on the American shores the ship-load of regicides, who, fleeing from the theocracy of the Old World, were to plant the first seed of democracy on the Western Hemisphere—a sect called Puritans because they insisted on certain "purfying" reforms for both the Church and State. These liberals little realized that their secession from the established orthodox forms in civil and religious government—their heresy was to mark the birth of a new freedom, religious, intellectual, social, and economic. Leaving England—practically ostracized and exiled—they went to Holland and finally came to the rock-bound coast of what is now New England. They set up a colony at Plymouth in the present



AMERICAN HISTORY IN EUROPEAN ART This ancient painting in Madrid shows Columbus delivering the Royal Order for the Caravels to start on his journey from Palos, Spain, which resulted in the discovery of America in 1492,



DEPARTURE OF COLUMBES ON DISCOVERY OF AMERICA—This painting by Gisbert shows the explorer receiving the blessing of the priest on the morning of Friday, August 3, 1492, when he set sail from the Port of Palos, Spain, to discover a new trade route to the Orient.

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State of Massachusetts in 1620, after sailing thence in the Mayflower. New colonists, fleets of white-sailed ships, soon headed toward America from England, and the Pilgrim foundations were laid.

Romance of Colonial Days-Awakening of the Wilderness

HE romance of colonial days now begins to lighten the dark recesses of the virgin wilderness. It is a period of colonization from 1607 to 1763—156 years. This second period is replete with picturesque glimpses of human life. It is filled with gallant deeds, unique costumes, and rich humor; Indians, quaint Dutchmen, somber Puritans, brave Cavaliers, pious Quakers, Jesuit priests, lords and ladies—all moving through quaint villages and thrilling Indian Wars—scalping, witchcraft, pillories, burning at the stake, villages in flames, heroic women, fleeing children—an almost illimitable field for historical drama.

But we should here warn ourselves against a common error—we must not make the mistake so often made by historians. The permanent foundations of the American nation were not all laid by the English-speaking peoples. This nation is built upon the courage, self-sacrifice, labor, and lives of many races—Spanish, English, Dutch, French, Swedish—each of which contributed in those early days very substantial and essential foundations upon which later the whole structure was to be built by all the nationalities of the earth—Irish, Scotch, German, Italian, Scandinavian, Slav—with the sinew and blood of the whole Occident and the Orient welded into one race—the American people.

The Dutch—a trading people who were powerful in the world's commerce—founded the greatest metropolis on the Western Hemisphere. Henry Hudson, an Englishman in their employ, discovered Hudson Bay, and also a river, which now bears his name, in 1609. Here, at the mouth of the river, the Dutch established a trading post on Manhattan Island. This grew into a colony known as New Amsterdam. Pushing north, they established other colonies in the Hudson Valley, until they were firmly imbedding in American soil the characteristics that have been large factors in our commercial growth.

The increase in colonization by the various nationalities cannot be studied here in detail. It is sufficient to say that by 1650 the Atlantic seaboard was held by the Europeans as follows: the Spaniards held and colonized the inland and coast along the Gulf of Mexico and along the Atlantic, about as far north as the northern boundary of Florida. North of that lay what the English called their Virginia Colony, reaching nearly to the headwaters of Chesapeake Bay. Then came, near the present site of Wilmington, Delaware, a settlement of Swedes (for that people, too, set

up colonies here), and north of them were the Dutch colonies, embracing what is now part of New York State and part of New Jersey. North of these there was another English territory, embracing what is now called,

and what was then named, New England.

The French began their explorations and settlement in America later than the other nationalities, but performed the heroic task of penetrating the interior. By the time they started there was nothing on the seaboard for them to acquire except land in the north, around the mouth of the St. Lawrence River. Cartier explored the St. Lawrence Valley, however, as early as 1534, and in 1608 a party under the command of Champlain founded a colony at Quebec. The conquest of the interior was a mighty achievement. Marquette pushed inland till he came to the headwaters of the Mississippi and sailed down that river as far as the mouth of the Arkansas (1673). La Salle, after exploring Lake Erie, also went to the Mississippi and followed it to its mouth. He took possession of all territory drained by that river in the name of the French king (1681). Their energies brought to the possession of the French, Canada, and Nova Scotia and Louisiana, thus hemming in the English colonies on the north and on the west of the Appalachian Mountains. At home in France, a galaxy of talent fostered by the "Great Monarch," Louis XIV, raised France to her zenith of literary glory. Pascal in his study, Molière on the stage, Bossuet in the pulpit—such were the gigantic figures that have made the reign of the "Great Monarch" the most remarkable in French history.

The time was sure to come—and soon to come—when the conflicting claimants of the American continent would meet face to face in a struggle of the survival of the fittest. America was now recognized as a land of vast resources and it was seen by far-sighted statesmen that its broad dominion, its rapidly increasing population, and its natural resources would be important factors in determining the political future of the world. Successive wars in Europe throughout the seventeenth and eighteenth centuries were to determine the possession of the territories held by the belligerent European nations in America. Battles were fought here as well as on the other side of the Atlantic which were balancing the future of America on the point of the sword. The diplomatists began to calculate the value of America in the great game of statescraft. By the treaty of Ryswick (1697) which ended the war of the Spanish Succession in Europe (known to the colonists as Queen Anne's War), France ceded to England, Port Royal, in Nova Scotia, which had been captured by the English colonists; and by the Treaty of Utrecht, at the close of 1713, the English received from the French all of Nova Scotia and right to the Hudson Bay region.

England and Spain went to war in 1739, and the English colonists

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captured St. Augustine, Florida; the English possessions thereafter extended southward into what had formerly been Spanish territory. Struggles between the Swedish and Dutch colonists ended with the disappearance of Swedish possessions; and in 1667 the Dutch traded their possessions in North America for the English possessions in Guiana, on the coast of South America.

War between the French and English colonists in America was at last to come independently of the relations of the mother countries. The English colonists, by pushing west and north, came into open conflict with the French colonists. Though England and France were at peace at home, a war broke out between their colonies in America in 1754. This is known as the French and Indian War, because these two formed an alliance against the English settlers. In this conflict, George Washington had his first military experience, being in command of an English force which defended a fort on the present site of Pittsburgh. Warriors from England and France crossed the seas and crossed swords on the American continent. Those from England were under command of General Braddock, who, in attempting to capture Fort Duquesne, was defeated, because he would not take the advice of Washington.

The mother countries were soon embroiled in European politics, and there broke out the Seven Years' War in 1756. By the Peace of Paris (1763), which brought that war to an end, the victories of England and her colonists won for her (so far as America was concerned) all of the French territory east of the Mississippi and all of Canada, which had been conquered by Wolfe against Montcalm. France ceded her possessions west of the Mississippi to Spain; and Spain, in turn, ceded Florida to England. France had lost all her possession in North America—the only traces which remain are the French-Canadians in Quebec and Montreal and the Frenchspeaking Creoles in New Orleans. Possession of the then known regions in North America was left in the hands of only two nations, England and Spain, and, as the latter's territory consisted only of Mexico, it was to England that the whole of what was then known of North America belonged. Thus, it was decided and from this moment ordained that the English tongue should be the language of this great people in the northern part of the Western Hemisphere.

The American Revolution—the Birth of the Republic

E now enter upon the third epoch in the conquest and civilization of the New World. This period (1763-1789) is one that vitally concerns every American. It is filled with the angry protest of the people against tyranny, wrathful denunciation of injustice,

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and declaration of independence. The call of the bugle is heard in the fields, the marching feet of determined men, the roar of the cannon reverberates across the valleys. We look into the sad eyes of women; we hear the weeping of children, and we catch the exultant cry of a new people, as a new flag unfurls before the breeze at the head of marching regiments, while the shrill voice of the fife pierces the air and the drum beats—these are the men who fought the American Revolution—the minute men of 1776, the Continental Army, the Light Horse Cavalry; the farmers and mechanics, the tradesmen and scholars—the American patriots who rose in defense of human rights and gave to the world the American nation.

The cause of wars, as we shall see in the chapter on Great Wars, is fundamentally economic. The trouble came through England's desire to control the seas, command a great empire, and mold the policies of world trade. This was the natural right of monarchy, enforced by military power, and England demanded only that which she believed to be her legitimate heritage under the doctrine of the divine right of kings. But England failed in one thing—she failed to comprehend the evolutionary forces that were cumulating toward democracy; she failed to realize the vastness and the economic destiny of the American continent, and she failed to understand the spirit of the American people and their potential power. Thus, in endeavoring to stay the laws of evolution, she plunged into revolution, probably as all other nations would (and most nations have) under similar situations.

There is no spectacle in human life or in the dramatic development of nations so tragic as that of war—human misunderstandings, fanned by a sense of injustice into anger, hatred, vengeance, and yet ennobling the spirit of man in inspiring him to a willingness to die for what he believes to be right; a sublime unselfishness—a complete forgetfulness of self—for the sake of what he believes to be the welfare of his country. The American Revolution was a war for humanity; it was fought not alone for the American people but for the whole human race. And yet its origin was economic rather than altruistic. It began with a sense of injustice caused by a system of burdensome taxation—a revolt against the yoke of monarchy, which came to its culmination in the birth of a new democracy.

Money—that is the root of most evil and also the glory of most human achievement—the dual force behind human progress. The recent wars had cost England much money, and, as the colonies had benefited by them to no small degree, she decided that they must bear some of that cost—such seemed reasonable to the monarchy. This was to be done by making them pay tribute to the navigation laws, which provided that all trade to or from the colonies with England or any other country must go in



COLUMBUS CROSSING THE SEAS TO AMERICA—His flect consisted of three ships; each had a crew of 90 men—His sailors threatened to throw him overboard—He sighted land after 70 days of perilous adventure.



LANDING OF COLUMBUS IN AMERICA—A cannon shot announced the discovery of land on October 12, 1492—He landed at San Salvador and throwing himself upon his knees, kissed the earth, returning thanks to God.



CELEBRATION OF AMERICAN LIBERTY—This rare engraving shows the raising of the liberty pole dedicated to American independence in 1776—The original was engraved by James C. McRae and exhibited during the centenary of independence at Exposition in 1876.



LIMPSE OF AMERICAN LIFE IN 1776—Here we witness the jubilation which swept the country preceding the American Revolution—The spirit here shown was given expression in the Declaration of Independence—It is interesting to note the costumes and customs.



SPANISH FOUNDATIONS IN AMERICA—This quaint engraving shows De Soto, the Spanish adventurer, on his search for wealth in the Western World—He discovered the Mississippi River, in all its grandeur, in May, 1541, and upon his death was buried in its waters.

English ships or ships owned by colonists, and that manufactured goods leaving the colonies must go to an English port before being sent to a foreign purchaser, or pay an export duty. The cost of the recent wars was also to be met by taxes on sugar and molasses brought into the colonies, and by a stamp tax by which every legal document executed in the colonies was to bear a stamp costing from six cents to fifty dollars, according to the importance of the document. The first two methods of raising money in the colonies were not new; the new stamp tax was to go into effect on November 1, 1765.

The British statesmen were born rulers; they believed they knew how to pacify the people. So they announced that the money raised by these means was to go toward paying for the defense of the colonies. But the American spirit was near eruption; it was struggling to break the chains. The colonists declared that the taxes were odious, both in the hardships which they imposed on the people here and in the fact that the people resented the right of the English Parliament to tax them. They took up the cry that "taxation without representation is tyranny" and made resistance against such taxation. But this principle in equity was not understood by the English Parliament, for that body was taxing Englishmen who were by no means properly represented in it.

The colonists defied the monarchy. They refused to use the hated stamps. So united were they in their opposition to the tax that it was repealed in 1766. But England considered it necessary to introduce severe measures to maintain the authority of the monarchy. It passed the Townsend Acts, which required the people of New York to quarter British troops or to give up their legislature, provided for strict enforcement of trade laws at Boston, and for taxes on certain goods, tea included. The breach widened—the crisis was near. Colonial assemblies were dissolved for offending the king. Troops from England began to arrive in 1770. The colonists refused to quarter them. In Boston the matter became so serious that in the same year a riot followed. The troops fired on a crowd—this was the "Boston Massacre."

British America was aroused. England now found it necessary to recede from her position. She took the tax off all goods coming into the colonies, with the exception of tea. But it was too late; democracy was on its virgin bed—soon to be born in blood. The people here were determined to tolerate no tax imposed by a parliament in which they had no representation and decided to evade the tax by importing no tea. At Boston the populace attempted to send cargoes of tea back to England. The authorities by prohibiting it precipitated the raid known as the "Boston Tea Party." Several young men, dressed as Indians, dumped the cargoes of tea

into Boston Harbor. Parliament struck back in retaliation and passed five acts: closing the port of Boston; providing for the trials of offending colonists in England; giving Massachusetts a military governor; forcing the people to quarter troops; and enlarging the province of Quebec so that it encroached on territory claimed by Massachusetts.

The alarmed colonies organized for concerted action. The first Continental Congress assembled on September 5, 1774. It was a gathering of determined men—representatives from all the colonies, excepting Georgia. It met at Philadelphia with much fervid oratory and passed addresses to the colonists, to the Canadians, to the people in England, and to the king. It drew up a Declaration of Rights, asserting these rights to be those of life, liberty, and property, the right to tax themselves, to peaceable assembly, to address petitions to the king, and to enjoy the rights of Englishmen and those which were provided for in the colonial charters. It declared, further, that these rights had been violated by the English authorities. Before adjourning it agreed to meet again in May, 1775.

We now look up the most memorable event in the history of America. It is July 4th, 1776—and there has never been a 4th of July since that the American people have not celebrated this event. It marked the birth of the greatest republic the human race has ever known. For months the Continental Congress had been in session at Philadelphia and every day of that time it had been a challenge to British monarchy. The colonies were actually in a state of revolt. Congress was working with all of its might to arm the country. The very words and phrases that have been immortalized by the Declaration of Independence had long been heard on every lip from Maine to Georgia.

Congress met in the Spring of 1776. It was evident that no petition would again be addressed to His Majesty's Government. Public opinion in the colonies was divided on the subject of separation. It now required spirits of the most heroic mold to set up an independent government in the face of the persistent claim of the people that they were not rebels in demanding their rights. But so numerous and determined had grown the separatists that in May they compelled the Congress to pass a resolution calling upon the colonies to form independent governments.

This wave of patriotism had not subsided when Richard Henry Lee, the spokesman of the Virginia delegation, arose in the Continental Congress on June 7th and said that he had received instructions from the Council of Virginia to move the following resolution: "That these United States are, and of right ought to be free and independent States; that they are absolved from all allegiance to the British crown; that all political connection between them and Great Britain is and ought to be totally dis-

solved." John Adams was on his feet, seconding this resolution, before Lee could take his seat.

The gauge of battle had been thrown down. The fifty-six immortal members of that Congress, in considering Lee's resolution, knew that they were precipitating a crisis. The Journal of the Congress is as silent as the grave on what passed after John Adams arose, except to note "that certain resolutions were moved and seconded and the consideration of them was deferred till to-morrow morning and the members were enjoined to attend promptly at 10 o'clock." The delegates were seriously divided; but in order to lose no time a committee, consisting of Thomas Jefferson, John Adams, Benjamin Franklin, Roger Sherman, and Robert Livingston, was appointed to prepare a Declaration.

Jefferson was selected to write the Declaration. In a little room on the corner of Market and Seventh Streets, he toiled over the document, writing and rewriting it. For several days the Congress had the Declaration under consideration. It was known that the separatists lacked only one vote of having a certain majority. One of the eloquent members was making a speech in favor of adopting the Declaration, drawing on numerous letters and documents from each of the States to prove that public opinion favored the separation. Coming to North Carolina, he gathered up an armful of letters and resolutions and read them with wonderful dramatic effect. Mr. Hewes, who had constantly voted against the Declaration, suddenly lifted his hand and almost shouted: "It is done, I will abide by it."

A look of terror swept over the faces of the members who had persistently opposed the Declaration. In that tense moment of the drama, the Republic of the United States was born. Something, however, more than a mere majority was needed to secure the safe passage of this momentous bill of rights. The desired majority was finally obtained. Lee's resolution was adopted on July 2nd, 1776. This act separated the colonies from the mother country. The formal declaration was adopted on July 4th. How many speeches were made on that first 4th of July in American history, what was said and how the vote was taken, have never been revealed. Only John Hancock, the President of Congress, and Charles Thompson, the Secretary, signed the document then.

There was no crowd about Independence Hall on that day. The document was published in the Philadelphia Packet two days later, and on the 8th it was read from Independence Hall to a crowd in the Square. Liberty bell was not rung. The crowd did, however, tear down the king's coat of arms in the State House. On August 2nd all the members of the Congress present signed the Declaration. There it was that John Han-

cock warned the members: "We must all hang together"; and Franklin made his famous witty reply: "If not we shall all hang separately."

The American Revolution marked the end of the British hopes for subduing the Colonies. Colonies they were no longer; by November, 1783, the last British force had sailed for home. Washington resigned his commission and returned to his estate at Mount Vernon. The treaty of peace was signed in 1783, and the boundaries of the United States were defined as a line running from the mouth of the St. Croix River to Maine, thence to the Lake of the Woods; west along a line running due west to the Mississippi, down that river to 31 north latitude, eastward along that parallel to the Apalachicola River, and by the present northern boundary of Florida to the Atlantic. It was an area of 827,844 square miles inhabited by three and a quarter million souls—a mighty nucleus for a new nation and a new nationality.

Building of a Great Nation—and Its Development

HE scenes now change from Spartan valor on the battlefields to Solonistic statesmanship in the ball. tremendous spectacle of the building of a nation and pass through the first period of National Development—from 1780 to 1861—72 years. This period brings us face to face with the great figures that laid the foundations of the Republic. Here we see the inaugural procession of Washington-his inauguration, his inaugural ball. We meet Hamilton, Adams, Jefferson—and the statesmen of the new democracy. We visit the old colonial houses. There is the War of 1812, the War with Mexico. This is interspersed with the development of invention—the steamship, railroad; territorial acquisition, the Louisiana Purchase, the beginning of the West, the gold seekers, the whole wonderful panorama of the awakening of a giant in civilization.

Let us begin to view the panorama in the days immediately following the triumph of the Revolution. While the troops of the colonies had been fighting in the field their statesmen were preparing for a union of their governments. An agreement known as the "Articles of Confederation" had been drawn up by the Continental Congress in 1777. It was a heroic task to attempt to unite all the conflicting interests, all the diverse ideas, all the various interpretations of liberty, under one instrument. Conflicts about the lands claimed by the various colonies kept some of them from ratifying these articles until 1781; and then they were of little practical value as governmental machinery because they gave Congress such limited Most serious was the prohibiting of taxation at the hands of that body. The various interests hesitated to contribute their individual priv-



BEGINNING OF RELIGIOUS LIBERTY IN AMERICA—This engraving shows the religious regicides as they fled from the Old World to take ship for the New World to worship God according to the dictates of conscience.



FIRST LANDING OF THE PILGRIMS IN AMERICA—The Mayflower, after a stormy voyage of 63 days; anchored off Cape Cod, with 102 passengers—They landed at Plymouth Rock to establish a colony in November, 1620,



FIRST PILGRIM MIGRATION TO AMERICA—The Pilgrim refugees on the coast of Holland, driven from England as heretics—They are offering their supplication to God at the moment of departure for the New World, where they were to lay the foundations of religious liberty for the peoples of the earth.

ileges to the common consent of all—it was difficult to divest themselves. Autocracy still fought inwardly with democracy.

The great crisis came on a May day in Independence Hall, in Philadelphia. The representatives from all the colonies met in convention, and fought out in debate the issues involved, coming to a final agreement after months of discussion, in the epoch-making instrument known as "the Constitution of the United States"—the greatest creation of governmental machinery ever devised by human minds. Its provisions will be found in another chapter. It here suffices to say that it was ratified by the ninth State on June 21, 1788, and on that date became operative.

The first presidential election was held in 1788. This, too, is described in the chapter on "Great American Campaigns." The people chose as the first President of the Republic, their war hero—Washington, and on the 30th of April, 1789, he took the oath of office on a spot still designated in Wall Street, New York, amid the shouts and cheers of the populace.

The first work of the first administration was a gigantic task—that of putting into effect the machinery of government provided for by the Constitution. A tariff law was passed, that money might come to the national treasury; the federal courts were established; the executive departments were established, and their heads became the President's cabinet; and a national debt was contracted.

The problem of financing the new nation fell upon Alexander Hamilton, first Secretary of the Treasury. To him the financial matters were entrusted. A national debt of \$11,700,000 was due to Holland, France and Spain, for aid during the Revolution; a domestic debt of \$42,000,000; and State debts amounted to about \$21,000,000. For the redemption of these, Hamilton bonded the first two and assumed and funded the State debts. Congress then ordered stock bearing interest to be issued in exchange for the old debts. In 1790 the National Debt amounted to \$75,000,000. The matter of funding the State debts was opposed by men from Virginia and Pennsylvania in Congress, and in order to get these members to agree to it, a compromise was made whereby Congress provided that for ten years the national capital should be Philadelphia, instead of New York, and that thereafter it should be in a new city on the Potomac. This resulted in the building of the city of Washington, where the National Government was established in 1800.

The genius required to finance a nation is equally as great as that required to win its battles—and especially a new nation in an experimental stage without credit. Moreover, it is a much larger problem to promote a republic than to finance a monarchy. Thus, the foundation arch to a democracy must have two pillars—industry with finance to maintain it—

labor with capital to promote it—men and money as a medium for exchanging their services. Neither can exist without the other under the

present age of human development.

How to finance the American nation was its most serious problem after it had won its independence; how could it maintain this independence? A national bank was established during the first administration. Under Hamilton's plan, there was to be capital stock amounting to ten millions of dollars, two millions of which were to be raised by the government and the remaining amount by popular subscription. The parent bank, then located at Philadelphia, established branches throughout the country, made payments through them, received moneys due the government and issued bills which were to be received all over the country for duties, postage and other payments to the government. Despite opposition it was granted a charter for twenty years and began business in 1791. These financial measures gave confidence to the people in their governmental experiment and also brought the confidence of foreign countries.

But every step of progress, every idea in political economy—was vigorously challenged. No measures were carried through Congress without great debate both among its members and among the people outside. Self-government means conflict of ideas. Human nature questions motives. The psychology of human nature enters as much or more into democracy than does the science of economics; one is a temperamental fact—the other is a mechanical theory. The individual States were jealous of the powers that they formerly had—powers which were inheritances from the days when they were colonies working under charters held from the English government. In each State there were men who disliked what they called the outside influences of the Federal Government.

The issue was clear—it was soon seen that the future must decide whether the Federal Government should be more powerful than the State Governments or whether the converse should be true. Those who held out for the supremacy of the Federal Constitution, for stronger federal feeling and operation, were called Federalists. They soon had their opponents throughout the whole of the Union, and these opponents organized themselves into a political party known as the Democratic Republicans. Among their leaders were Jefferson, Randolph, Monroe, Madison, and Gallatin. An early test of the powers of the Federal Government in internal affairs came. Certain farmers in Pennsylvania, who had their own stills and refused to pay the internal revenue on their output of whiskey, rebelled and were put down by a force of militia from neighboring States. This came to be known as the Whiskey Rebellion.

Differences of opinion—based frequently on self-interests or individ-

ual interpretations of human existence, cause political parties. As has been shown, the matter of difference of opinion which brought about the birth of one political party, was due to open questions on the internal policies of the Government. But foreign affairs and threatened "world wars" were to occupy official minds after 1792 and it so happened that there came the same alignment of opinion on these questions as there had been on internal affairs. It is interesting to note the attitude of the American people during this world crisis. When the French Revolution got under way, in 1789, the people in America, as well as those in Europe, watched its successive stages with great interest. When the French populace started to go to extremes, after 1792, beheading its king and falling into the hands of political leaders who did not hesitate at the worst crimes, the people in the United States, as did those in other countries, divided in their opinions: some upheld the actions of the French radicals; some deplored those actions. When war came between France and England, Washington decided to take a neutral position.

This immediately called up the disfavor of the Republicans who claimed that he should stand by France, our erstwhile friend and against England, our erstwhile enemy. To make this position more difficult for the President there came the interference with American commerce by England in her efforts against France, until Jay obtained a treaty with England (1794) which settled that matter to some extent. In the following year a treaty with Spain settled the disputed matter of the northern boundary of Florida and gave American ships the right to pass through her possessions, which included both sides of the shore at the mouth of the Missis-

sippi.

The political and economic foundations of a nation are so essentially the root from which the people themselves have grown that these annals must be related in other chapters. Neither can we linger here to consider the social conditions other than occasionally to suggest the home life and character of the people in its process of national evolution. We look now upon Washington for the last time. He is aged with the stupendous burdens placed on his shoulders—a modern Atlas supporting the New World. With dignity of bearing, classical features, cultured voice, we see him as he stands before the populace, after serving two terms, and hear him delivering his famous Farewell Address in 1797. He was succeeded by John Adams, the candidate of the Federalists. Thomas Jefferson, candidate set up by the Republicans, received the next largest number of votes and became Vice-President. Three days after the inauguration a crisis occurred—the American Minister to France (Pinckney) was driven from that country by the French Directory, the five men who were then governing France in lieu

of any other government. They were grieved because Jay's treaty with England amicably settled the differences that had existed between England and America and because it precluded the possibility of those two coun-

tries going to war.

Angry over the insult, President Adams yielded to pressure and agitation and sent Marshall, Gerry and Pinckney to Paris as a delegation to settle the differences with France. Much to the amazement of the American people, agents of the French Directory approached these men and proposed that they apologize for the denunciation our President had made about France, that each of the Directors be given an indemnity of \$50,000, and that tribute be paid to France. The Americans were aroused. The cry of "millions for defence, not one cent for tribute" rang through the country. It looked for a time as though we should go to war. During the outburst of patriotism which followed, the national song, "Hail Columbia," was written and its strains were echoed from town to town.

National spirit rose to a high point. This culminated in the passage of the Alien and Sedition Acts which provided that no foreigner might become a citizen until he had resided here nine years. These acts also defined sedition as speaking or writing about any member of the Federal Government with abuse, and provided for proper punishment. These laws were carried out with vigor. Opposition to them was wide and aggressive. Resolutions were passed declaring them to be unconstitutional and proclaiming that when such laws are passed any State that insists upon their unconstitutionality had the right to secede from the Union. Thus was born the doctrine of nullification. Meantime, war with France did come and the navy of the United States carried on a vigorous campaign against French commerce. The Directory fell from power before terms of peace could be broached. Napoleon became First Consul of the French Empire. These martial acts caused the raising of new revenue in the United States in the form of a stamp tax and a direct tax on land, houses and slaves; they caused so much opposition in certain parts of the country that the President had to call out the militia to restore quiet. A second time it had been shown that the Federal Government was determined to uphold the Constitution.

The Nineteenth Century opened with many forebodings for democracy. The Napoleonic wars were to crush Europe under the iron heel of the conqueror in the name of republican government—and finally to overthrow the conqueror.

The beginning of the new century brought Jefferson into the Presidency—a victory for the Democratic Republicans. And in this administration we find the young American nation entering upon a new era of mighty



HOME LIFE IN EARLY AMERICA—Glimpse of an interior of a pioneer's home in New England during first century of English colonization—Here we see the Puritans in their log cabins laying the foundations for the American nation.



FIRST MISSIONARY AMONG THE INDIANS—Here we see John Eliot, who arrived from England in 1631, delivering the first sermon to the Indians in their native tongue on the American continent—Eliot translated the Bible,



FIRST PERMANENT ENGLISH SETTLEMENT IN AMERICA—It was founded in 1607, at Jamestown, Virginia—The first legislative assembly in America was held here in 1619—The settlement passed through many vicissitudes; it was visited by fire, famine and Indian massacres.

expansion—we sprang suddenly from a little group of struggling States into a great empire. Here we record the greatest real estate transaction in the world's history—the Louisiana Purchase which brought the Great West into the American nation. And this all came about through the Napoleonic The only real victor in the Napoleonic wars was the United States —and it gained its victory through its neutrality. Europe was devastated by the ravages of war; England defended itself from being crushed out of existence and won notable military honor-but the American nation won a continental dominion. This all resulted from the fact that Napoleon needed money—and we were able to supply it. At this time the American nation was crowded into a small corner of the continent. boundary of the United States was the Mississippi River. The Spanish flag floated over the territory west of that river from the British possessions on the north to Brazil on the south. The southern boundary of the United States was the 31st parallel of latitude, and the Spanish Floridas occupied all the intervening country below that line from the Atlantic Coast to the Mississippi River, completely shutting off the American people from all communication with the Gulf. The ambitious Napoleon had secured control of Louisiana in 1800 for the purpose of establishing a great western empire-ultimately to absorb the American republic. But his plans were not materializing. France was humiliated and in want of money. England was preparing to seize the French possessions in America, which had two years before been ceded back by Spain to France, and New Orleans and the Mississippi River were the objective points of attack. Twenty ships from the British navy were cruising in the Gulf of Mexico off the mouth of the river, waiting for the conflict. Napoleon was alive to the situation, and resolved to checkmate England in her plan to obtain the coveted prize.

Accordingly, on the 10th of April, 1803, Napoleon announced to two of his counselors, that he had determined to sell his American possessions to the United States. His startling proposition met with opposition. The next day he held audience with them again, and it was then and there decided that war with England was inevitable; that money was needed to carry it on; that they could not hold their American territory against England. The only alternative being an immediate sale of the country for

money, or a seizure without it; they resolved to sell.

Livingston, the American minister at Paris, was apprised of this proposition, but it so far exceeded the limits of his instructions, that he could not negotiate without authority from Washington. To communicate with Washington, and obtain a reply, would occupy about three months. Such a delay would be hazardous to the interests of France and the United

States. But the new minister, James Monroe, was already on his way to Paris, and when he arrived there the proposition was submitted to him. Though it exceeded his instructions, he took the responsibility of making the treaty and it was signed April 30th, 1803. It stipulated that the United States should pay 80,000,000 francs; and, as part of the same transaction, 20,000,000 francs should be applied by the United States at Washington, to the payment of certain claims owed by France to American citizens, if they should amount to that sum. The amount finally agreed upon was \$3,738,268.98. The whole sum actually paid was in round numbers \$16,000,000—less than two cents for each one hundred acres of land conveyed.

This epoch-making transaction in America precipitated the war between England and France. The matter was conducted so secretly and expeditiously, that the minister of England at Paris knew nothing of the negotiations till after the treaty was signed. On learning that fact, he at once demanded his passports and left for England. The French ambassador at the Court of St. James also took his passport and left. The events which followed need no description here. The clash of arms between these two great powers and their allies shook the world from center to circumference. Napoleon, who had carried the eagles of France in triumph through a hundred battles, was to go down in the conflict a few years later at Waterloo, and Wellington, the Iron Duke, was to mount the pedestal of fame, as the conquering hero of the world.

The purport of this transaction in America is but little understood or comprehended by the people of this country even to-day. It brought to the American nation a territory much larger in extent than the thirteen original States of the Union; greater in agricultural resources and richer in mineral wealth. It brought us mountains, magnificent in grandeur; the most beautiful scenery on the hemisphere; and its river courses the longest in the world. Twelve great States, each nearly double the size of New York, have already been admitted into the Union out of territory east of the Rocky Mountains; and there was in addition, the Indian Territory, with 64,690 square miles, and the Yellowstone, or National Park, with 3,575 square miles. There was also taken from Florida, eventually, south of the 31st parallel of latitude, 2,300 square miles to be added to Alabama, and also 3,600 square miles which was added to Mississippi, to give to those two States a water front upon the Gulf of Mexico.

This territory between the Mississippi and the Pacific Ocean, then an unbroken wilderness, is to-day a great empire, bustling with activities—its development too rapid to be calculated, and its possibilities too great to be computed. Sixteen millions of dollars was a large sum for our country to

assume at that early date, and yet, the sum paid for the entire purchase is not equal to the product of the mines in Montana for one month, or the

wheat of Kansas or the corn of Iowa for a single year.

How much this nation and the world at large is indebted to Thomas Jefferson and James Monroe, for the peaceful acquisition of this territory amid threatening and impending difficulties, can never be told or comprehended. This purchase gave us the breadth of the continent from ocean to ocean, the command of its rivers and harbors, the wealth of its mountains, its plains and valleys, a country sweeping from the Gulf to the Lakes and the Lakes to the Sea, in which is being worked out the sublimest problems of human life and of self-government in the interests of the people. Without it to-day the country, if in existence at all—hemmed in by European powers on three sides—would be a struggling, provincial, inconsequential people.

The Napoleonic wars shook the foundations of Europe. The United States continued to remain neutral but with much difficulty. Crises constantly arose which threatened to drag us into the maelstrom. The warring nations waged a war to injure commerce and trade. England passed an order in Council, which declared the whole coast of Europe—now in control of Napoleon (1806)—to be blockaded. It was a paper blockade; no ships actually carried it out, but American vessels were seized for "running" it. In retaliation Napoleon issued the Berlin decree, declaring a "paper blockade" against the British Isles. American ships were now seized by

the French.

The two nations then issued further decrees with the result that almost all trade between America and Europe was stopped. To combat France and England, the administration passed a non-intercourse act forbidding the importation of all goods from those countries. Reforms were made in the American navy and a new treaty made with England; but it made no mention of our rights on the seas nor of the impressment of American sailors by the English. Smuggling made the embargo, and a successor to it, worthless and the outrages against American ships went right on. This was the critical situation, when Jefferson's second term came to an end. Following Washington's precedent, he refused to stand as candidate for a third term, and Madison became President in 1809.

America Drawn Toward Vortex of Napoleonic Wars

HE Napoleonic wars still drew America toward the vortex. The troubles over shipping were again imminent. The Macon Act, named after the Congressman who drew it, provided that United States ships would renew intercourse with either of the warring nations

that would first withdraw its decrees and would then have no intercourse with the other. Napoleon accepted the offer. But when cargoes of American ships reached French ports, he repudiated his action and seized both ships and goods. England, meanwhile, continued her raids on American commerce.

The situation grew tense—the crisis came. Congress convened in 1811 and decided to declare war on England. In that historic Congress we meet Henry Clay. His rival from that time, for forty years, was John C. Calhoun. The declaration of war came on June 18th, 1812, five days after the British orders in Council had been repealed. But in those days before the cable or the ocean steamship, news travelled so slowly that no word about the repeal arrived in Washington for several weeks. The proclamation, accompanying the declaration of war, stated that we entered it because England had incited Indians to attack Americans, had interfered with our trade, had searched our ships off our own ports, and had impressed some six thousand of our sailors. The chief events of the war are narrated in another chapter.

Peace came with the Treaty of Ghent, signed in December, 1814. The treaty, however, failed to settle any of the matters which had caused the war. But the naval victories of America had raised her to higher estate in foreign esteem; the war did much to consolidate the Union; and it established American integrity on the high seas. Thus the Napoleonic wars unloosed two great forces in America—her great natural resources in the West and her commerce; it started America on her career as a world power.

In the twenty-five years which passed after Washington's inauguration, the population of the country had increased by 5,000,000. Five new States had become members of the Union. Immigration was fast making the wild regions west of the Appalachians part of the habitable world. Wars and treaties with the Indians subdued the savages, and emigration became the forerunner of permanent settlements. Kentucky, Vermont and Tennessee had become members of the Union before 1800. Ohio had entered in 1803. New inventions for industrial purposes, new manufactures, prosperous banks, and the building of canals showed how the new nation had flourished since gaining its independence. Manufacturing was boomed by the embargoes against England and France, for heretofore much raw material had gone abroad to be sent back to the United States as finished product.

To further encourage manufacture and the "infant industries," societies were started everywhere to boycott foreign goods, prizes were offered for the best made domestic goods, exchanges for the latter were established, men with capital came forward with money for mills, and public officials



REMAINS OF ANCIENT CIVILIZATION—Pueblo ruins of the famous Casa Grande in Arizona—Survival of prehistoric times—Father Kino said mass within its walls in 1694—The first white men to traverse this territory were two friars in 1538.



FIRST WHITE SETTLEMENT IN NORTH AMERICA—It was made at St. Augustine, Florida, after Ponce de Leon discovered the land of flowers in 1512—This picture shows what is believed to be the oldest house in the United States—It was built in 1516.



EMBARKATION OF THE PILGRIMS FOR THE NEW WORLD—The Pilgrims as they set sail on the Mayflower from Plymouth, England, on September 6th, 1620—The Mayflower was a vessel of 180 tons—They intended to go to the month of the Hudson River but the captain steered them into Cape Cod.

insisted on wearing and using things "made in America." The value of goods manufactured within the United States in 1810 was \$173,000,000. Roads and canals were extended to all regions. Steamboats began to ply on important rivers; the Government began to mint gold and silver; State banks came into existence in many places. Suspension of payment by these came with the panic caused by the British attack on Washington, but this was prevented from recurring by the establishment of a second National Bank, modelled after the first.

This was a period of expansion. James Munroe was elected to the Presidency and took office on March 4th, 1817. No Federalist candidate ran for office after that time. The differences which had led to the establishment of two political parties no longer existed when once the doctrine of Federal supremacy had taken root, and after peace reigned in Europe the question of American neutrality was no longer raised.

This, too, was a period of momentous events. The American people were beginning to feel their dormant power. The Seminole Indians in Florida and the Creeks in Alabama were harassing the white settlers. The first force sent against the Indians failed to pacify them. General Jackson then invaded the Spanish territory of Florida and took possession of it.

"He was officially rebuked but publicly applauded."

At this time also the question of the northern boundary of the Louisiana Purchase was settled. The line decided upon was the 49th parallel north latitude, running from the Lake of the Woods to the summit of the Rockies. England and America were to occupy the Oregon territory jointly until 1828. The purchase of East and West Florida from Spain for the sum of \$15,000,000 was completed in 1821, and the western boundaries of the Louisiana Purchase were agreed upon.

Thus the wings of the great American family continued to spread. The acquisition of Florida not only added to our national domain a territory seven times larger than Massachusetts, but gave us an unbroken line of seacoast from Nova Scotia on the north to the Sabine Pass on the south, with no foreign waters washing our shores and no unfriendly settlements to embarrass our commerce. The soil of Florida, moistened by Spanish and English blood, peacefully passed under the flag of the United States, and Spanish grievances were ended.

American democracy now played its master-hand against Old World monarchy and won through diplomacy a more far-reaching victory than that of many wars. It took its stand courageously for the integrity and preservation of the whole Western Hemisphere—without molestation or invasion by any foreign power. This world-molding policy came about in this way: Russia, which held the territory now known as Alaska, at-

tempted in 1822 to fix its southern boundary at the 52nd parallel, thus taking in part of the Oregon territory. The Russian Government also had a colony in California and seemed to be bent on excluding Americans from the Pacific. John Quincy Adams, then Secretary of State, protested. He proclaimed to the Russians that European nations no longer had the right to plant colonies in North America. This was the birth of that principle in international law known as the Monroe Doctrine.

The first test of this daring warning to the world from the new American nation came in 1823. The possessions of Spain in South America had gained their independence, after bloody struggles. They were now threatened by the Holy Alliance composed of Russia, Prussia, Austria, and France. Under these conditions, the United States could never be secure; the Western Hemisphere would be subject always to invasions from the older civilization. England also feared the strength of the Holy Alliance, with the power it might gain in the western world—hence it suggested to the American Government a protest against the interferences of European governments with the South American countries. Coming as this did at the same time that our protest was sent to Russia, the suggestion was acted upon. President Monroe in his message to Congress, December 2nd, 1823, proclaimed to the world that the American continents were no longer open to European colonization; that America would not engage in European affairs (except on occasions when they directly attacked American integrity); that the European nations must not "extend their system" to any part of the New World, nor seek to control the destiny of any of the countries in it.

Behind this declaration was the voice of a great people. By its own force it became a law. Since that time the American Government has been extremely jealous of this doctrine. It has maintained it even so far as taking control where a European nation had tried to collect debts from some of the smaller republics in this part of the world. The term "extend their system" has received the broadest interpretation. European nations have since chafed under the Monroe Doctrine, but none has yet dared to test its validity with force.

Great Westward Movement in Immigration

HE next great movement of the American people was migration westward. Trade had declined after the War of 1812; the expected good times which were to follow did not arrive. It was now that many farmers in the East gathered their families, stock, and possessions, and made their way to the new lands in the West by wagon. Here they settled, opening up vast stretches in the Middle West. This

migration was at its height in 1817. The frontier of the country was pushed as far as the western border of what is now Missouri.

Life on the frontier was crude—the frontiersmen were a stalwart stock -not unlike in their gallantry the folk in the days of Rob Roy and Ivanhoe. It took hardy people to stand the hardships of the journey thither; their open-air life made them sturdy. They fought the beasts of the forests and challenged all danger. They could bring with them few of the accessories of civilized life. Their homes were log cabins, without glass and without stoves or conveniences. Iron was not then as plentiful as it is now. They had almost no nails, and their tools were so poor that they cleared their lands with the greatest difficulty. But these very hardships developed them into a race of shrewd, philosophic, clean-living people, with the breath of Nature in their souls, the bronze of the winds on their faces, the roar of the forests in their voices, and the stability of the rocks in their muscles. Migration took them to Indiana, Mississippi, Alabama, Illinois and Missouri-these States, together with Maine, entered the Union between the vears 1816 and 1821. All but Maine had become populous, due to the increased migrations.

The admission of new States raised a question which was to bring about the first great national crisis and threaten the dissolution of the Union. This was the matter of slavery. As has been noted, the first slaves were brought to America by a Dutch ship in 1619. There was no protest—they were considered as property. The institution of slavery spread and became grafted into our economic system, so that by the time the Union was formed it existed in every one of the States. It was a constitutional right. So long as the country had no industrial life, the employment of slaves was economically advantageous. But in the North, where industry grew faster and where cities grew larger, the slaves could be used only as servants; they had not the hereditary training necessary to be used where skill and technical knowledge were needed—as in factories, mills, and shops. Consequently, without service for them in the North, slavery in the States above Maryland was dying out of its own accord during the first quarter of the Eighteenth Century. Here develops a strange social psychology.

When all selfish interests are eliminated—when economic values disappear—then humane instincts rise. So, when the economic gains were lifted from the institution of slavery, prejudice arose on humanitarian grounds. But the South did not become an industrial region; it was still profitable there to use slaves in agriculture; and, when the raising of cotton became the paramount business of the South it rested almost entirely on slave-labor. Consequently, slavery meant economic health to the South-

erners—even existence itself. Between the people in the two sections of the country there began to be a division of interests over the matter. The Northerners were determined to restrict the institution; therefore, when new States were admitted to the Union, they raised the question whether

they should be admitted if they permitted slavery.

There were twenty-two States in the Union in 1820; the eleven lying north of Pennsylvania's southern boundary and west of its western boundary were "free States"; the remaining eleven were "slave States." Beyond the Mississippi none of the territory was at that time part of any State. Consequently, forty-four of the Senators were defenders of the institution; the remaining forty-four were opposed to it, in theory at least. When Missouri petitioned for admission in 1819 and was known to be a slave-holding territory, this balance was threatened. The ensuing deadlock was settled by what was known as the "Missouri Compromise" (1820). To offset "slave-holding" Missouri, "free" Maine was admitted at the same time. It was agreed that States later created from the Louisiana Territory should be "slave" if south of the line 36° 30' and "free" if north of it. This seemed to be a compromise—but proved to be only the postponement of the decision of a vital policy in the future democracy. Monroe was re-elected President on his brilliant record, receiving all but one of the total of 220 electoral votes.

Beginning of Modern Age of Industrial Development

NEW age now began to dawn—the beginning of the modern age of vast industrial development. "Necessity," says the old adage, "is the mother of invention." There is no greater truth—every great invention is the result of a great economic need—it is the answer to a social problem. So it was that, with territorial expansion and the establishment of new settlements in the West, came the problem of communication between that section and the East. Thus we conceived the Erie Canal. connecting the Great Lakes with the Hudson River, to solve this problem—to meet this necessity. This gave New York a rebirth and greatly reduced freight rates between East and West. Moreover, it established New York as the great market and metropolis of the American nation; it gave New York the start from which it has since risen to world power—the gateway to a continent. Heretofore, produce and passengers could be transported by horse-drawn vehicles only—a slow and costly business. Canals were built throughout the whole country—and the problem seemed settled.

But national growth rapidly exceeded the pace of the canal; it demanded large, swifter channels in which to carry the burden of a nation's production. The new West called for transportation—for communication



FREEDOM OF CONSCIENCE IN AMERICA—This famous engraving portrays the Pilgrim Forefathers on the way to Church—Here on the Western Hemisphere they established religious liberty—The hardships and rigors of New England Coast severely tested their courage, self-sacrifice and character.



NLRMS OF the AMERICAN REVOLUTION—This in the battles for American independence—This is the genius that can all its tall of clonarchy in the Western World.



ACY OF THE AMERICAN PEOPLE—Washington wrote on disbanding the army: "The citizens of America are placed in the most enviable condition as the sole lords and proprietors of a vast tract of continent comprehending all the various soils and climates of the world."



FIRST PURE DEMOCRACY IN AMERICA—The landing of Roger Williams (1630)—He denied the right of magistrates to interfere with the consciences of men and demanded the complete separation of church and state.



WASHINGTON AND HIS MOTHER—Washington was born February 22nd, 1732, in Virginia, son of John Washington and Mary Ball Washington—His father died and through his mother's guidance he developed into greatness.

with the stretching limbs of the continent. Thus the idea of railroads on land and steamships on the seas. Experiments were made through the twenties with this new power that was soon to break the economic bondage of the peoples of the earth, emancipate the world's trade—and create a new epoch in civilization. The first use of the steam locomotives economically successful was on a line—with gaps—that ran from Philadelphia to Pittsburgh, from 1836 onward. The invention of straw-made paper, farm machinery, the telegraph, and the sewing machine, the use of chloroform, American-made hardware, anthracite coal, and fire brick all came between the years 1825 and 1840 and were due to American genius. In the cities the omnibus and street-car began to be used.

This period saw the rise of the Mormon sect in upper New York and their migration as they moved farther and farther west, till they set up a city of their own in 1847 at the Great Salt Lake, then in Mexican territory. The period saw also the rise of certain features of the American political system. With the coming of a broader democratic outlook the punishment meted out to convicts was made lighter, free schools, asylums, and better prisons were established, and the States amended their constitutions to open suffrage to greater numbers. Democracy, too, was experiencing a rebirth—it was about to step out into a great industrial age when it should test its might with the surviving elements of autocracy and fight for its existence against feudalism and oligarchy entering into our industrial life.

As the Erie Canal was completed there came into the Presidency, John Quincy Adams—a National Republican. The first locomotive in this country was brought from England; lithographic printing came into America. Then came the election of Andrew Jackson to the presidency—the first President who came up from the ranks and did not belong to the aristocracy. The first American locomotive, constructed by Peter Cooper, was tested on the Baltimore and Ohio Railroad; the Delaware and Hudson Canal and the Chesapeake and Delaware Canal were finished, giving to New York and Philadelphia respectively new commercial inland waterways. At this time Dr. John Revere crowned this year of achievement by inventing galvanized iron. The ready oxidation of iron had made it more vulnerable than wood to the action of the atmosphere. Dr. Revere's discovery had advanced the world a long step into the iron age.

We now enter upon an era in which events crowd upon us so rapidly that it is necessary to witness each step, year by year—a rapidly moving panorama of national progress. The year of 1830 was made memorable in the commercial and industrial history of the United States by the negotiation of a treaty with Great Britain throwing open to American commerce all the ports of the West Indies and South America, and by a treaty with

Turkey giving American ships access to the Black Sea; by the founding of what is now the third greatest city of the world, Chicago, at a rude trading outpost on Lake Michigan; by the running of the first steam passenger train in America on the Charleston and Savannah Railway, the train being drawn by a locomotive built in New York and called the "Best Friend"; and by gazing at the stars through the first American telescope erected at Yale.

The year of 1831 opened with an insurrection of negroes led by Nat Turner. William Lloyd Garrison sent to the press the first copy of the Liberator, his famous anti-slavery paper, which had sprung the movement which was to culminate thirty years later in the American Civil War. The State of Pennsylvania completed the great freight line from Philadelphia to Pittsburgh, part of the way by canal, part by horse railroad. The Allegheny Mountains were scaled by rail with stationary steam-engines for hoisting. Albany and Syracuse were joined by rail and a New York built locomotive scored the record of a mile in three minutes on this new road. John Henry, of Albany, invented an electric apparatus that produced sounds and that was the forerunner of Morse's celebrated invention, the telegraph.

Jackson was again elected to the Presidency in 1832. His opponent was Henry Clay, the issue being the rechartering of the National Bank. A tariff bill was passed, raising the duties on molasses, reducing it on iron, letting raw wool come in free and leaving cotton unchanged. But this law did not satisfy the South, and South Carolina threatened nullification by summoning her State troops to arms to prevent the enforcement of the law. She declared that if her troops were attacked she would withdraw from the Union. Jackson denounced this act as treason, and Congress enacted a Force Bill giving him the power and money to enforce the law.

This was the omen of a future crisis.

The tariff struggle led to the "Compromise Tariff" in 1833, and South Carolina, having won a reduction, abandoned nullification. Jackson vetoed the rechartering of the Second National Bank on the ground that it was undemocratic and was a political machine. The Sacs and Foxes, two tribes of Black Hawk Indians, vowed that they would not give ground to civilization in Illinois by crossing to the west bank of the Mississippi. Under their chief, Black Hawk, they ravaged the frontiers, and were crushed and expelled by General Atkinson. The intrepid explorer, Schoolcraft, found his way to the headwaters of the Mississippi. New York's old Bowery jangled and rattled from the city hall to Fourteenth Street with America's first street-car. Massachusetts abolished her age-long custom of paying her ministers and the event marked the final separation of Church and State in America. Jackson, to clinch the nails in the coffin of

the National Bank, withdrew the Government funds and placed them in certain State banks.

"Abolition" was the cry in the North. William Lloyd Garrison was beaten in Boston by an anti-abolitionist mob in 1835. The Seminoles in Florida refused to obey the order of the Government to take up their habitations west of the Mississippi. They ambushed and slew Major Dade, with a hundred United States troops, and massacred General Thompson and other whites. This was their second and most serious war.

Van Buren, a New York Democrat, was elected President in 1836. Texas, under the leadership of General Sam Houston, in the battle of San Jacinto, severed her connection with Mexico and sought admission as a State to the United States, but was rejected by the opponents of the further extension of slavery. The House of Representatives passed the "Gag Resolution," tabling all resolutions dealing with slavery. John Quincy Adams, a member of the House, vigorously opposed this as a violation of the right of petition; it was repealed eight years later. One of Jackson's last acts as President was to issue his famous "Specie Circular," providing that all public lands be paid for in specie only on account of the depreciation of the State Bank notes. The act was partially responsible for the panic which followed.

Financial distress now befell the republic. Van Buren's administration began in 1837. Calhoun proposed that loans should be made to the several States according to their representation in Congress. But, after three payments had been made, the panic of 1837 emptied the treasury and paralyzed the monetary life of the whole nation. The country had grown too fast and furious for its financial health. It had gone mad with wildcat banking, with reckless speculation in Western lands, and with breakneck industrial expansion in the States. Texas was now recognized by the United States as an independent, sovereign Government, and Van Buren sent a minister to the new republic to represent the American Government. In the midst of the great panic and gloom, Morse flashed his first telegram over a wire a few miles in length, thus giving lightning's wings to words.

The year of 1838 opened with the founding of the Smithsonian Institute at Washington, a national laboratory and museum which has been an important factor in the scientific progress of the world. In this same year, there came into the harbor of New York two giant steamships, the Great Western and the Sirius on their regular traffic across the Atlantic. With all sails set, with black smoke rolling from a great lone stack amidship, and propelled by side wheels, it took these first ocean liners from twenty to

twenty-five days to cross the Atlantic.

America Enters Epoch of Invention and Expansion

MERICAN invention (described in another chapter) began to place its momentum behind American progress. A screw steamship invented by John Ericsson crossed the Atlantic in 1839, a triumph of marine engine mechanics. The first real likeness of a human face, made by the daguerreotype process, succeeded, and the day was heralded when every one who wished, could see his face printed in a picture. Congress, with the experience of the panic before it, established subtreasuries for the care of the Government money. The year approached its close with the noisiest and most rollicking Presidential campaign the country had ever seen and Tyler was swept into the Presidency.

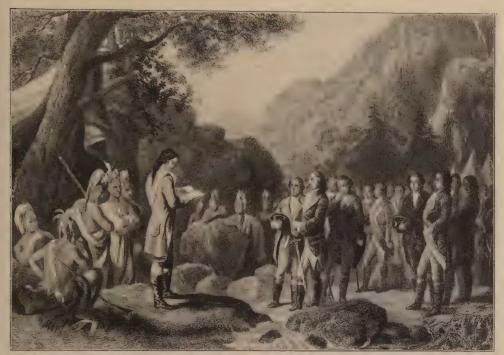
The problem of the National Bank came up to perplex President Tyler in 1839, threatening the disruption of his administration. There arose serious Canadian boundary disputes with England, and also the slavery problem through the mutiny of the crew of the *Creole*, a slave ship, carrying 135 slaves in the British West Indies, where it was set on fire by England. The slaveholders in Congress twisted the British lion's tail in herculean fashion. During this excitement, Horace Greeley came to

the front and published the first copy of the New York Tribune.

We witness an important diplomatic coup in the year 1840. Daniel Webster and Lord Ashburton negotiated a treaty, settling the boundary line between Canada and the northeastern boundary of Maine. This is the beginning of the settlement of that long line between the Dominion of Canada and the United States. Thomas Dorr, a leader of the common people in Rhode Island, headed a rebellion to establish popular suffrage. At an election held to adopt a new constitution, he claimed that his party had won, and he accordingly established a government in opposition to the regular State Government. He was arrested as a traitor. But the next year his party triumphed and he came forth from prison a political hero.

Then came the great exploration. Major John C. Frémont was sent by the National Government to find a path over the Rocky Mountains to the far distant land of Oregon and the Pacific Northwest in 1841. He planted the Stars and Stripes in the Great West. When his party came back with the news of the promised land far beyond the mountains, those bold and venturous spirits who had gone as far as Missouri sprang into their schooner wagons with all of their household goods, their wives and little ones, and set their teams towards the Northwest.

Within a year (1842) ten thousand American frontiersmen had scaled the Rocky Mountains and driven stakes in the new empire. The English lion again began to growl and another Presidential campaign dawned.



WASHINGTON IN THE FRENCH AND ENGLISH WAR—Here we see the young soldier fighting against the attempt of the French to establish control of region between the Mississippi and the Alleghenies, in 1754.



HOME LIFE OF GEORGE WASHINGTON—Washington with his family at Mount Vernon, Virginia—He married Mrs. Martha Custis in 1759 and adopted her two children—

The daughter died in young womanhood—The son became aidedecamp to Washington in American Revolution.



DRAFTING THE DECLARATION OF INDEPENDENCE—The first resolution for Independence was presented to the Continental Congress by Richard Henry Lee of Virginia,

June 7, 1776—A committee A appointed on June 11, to prepare such a postaration—It was compacted of Thomas Lefteron John Adams.

Bentural, Frontin Robert Livia, tor. Roger Sherman—Jefferson Was appointed in the place of Lee, who had been called home—

He was selected by the Committee to make the first draft.

The Democrats raised the issue: "It is fifty-four forty or fight," and their leader, James K. Polk, won on the issue. The Democratic victory also swept Texas into the Union as a State.

The young American nation was expanding by leaps and bounds. The first act of President Polk's administration in 1843 was the negotiation of a treaty, throwing open Shanghai and other Chinese ports to American goods. The invention of the telegraph prophesied the dawn of a new age. The whole world was affected by flashes of electricity bearing the epochmaking message over a wire between Washington and Baltimore: "What hath God wrought?" It was in the following year (1844) that New York and Philadelphia were connected by telegraph. Then came another world-molding discovery in the discovery of petroleum in Western Pennsylvania

(1845).

The stage of American history was crowded with events in 1846. England and the United States drew the Oregon boundary line at the 40th parallel, and peace reigned again between London and Washington. But the admission of Texas as a State precipitated between the United States and Mexico a boundary question that drew the sword as arbiter. Mexico demanded that the Neuces River be made the southern boundary of Texas, while the United States demanded with equal emphasis that the Rio Grande River be made the boundary. General Taylor was sent to hold this region. His advance forces were attacked and the Mexican War followed. It was the third real war that had come to this country since the day of the embattled farmers at Lexington. New England strenuously objected to the war, on the ground that any annexation of Mexican territory would extend the black cloud of slavery, now hovering ominously over the peace and harmony of the whole country. Nevertheless, all the rest of the country flung its heart and soul into the war as if on a moral crusade. These events are related in the chapter on "Great American Wars." While they were occurring, American sailors set up the independent State of California. The one great invention of this period was the patenting of the sewing machine by Elias Howe, of Boston. It was during this time also that the House of Representatives passed the Wilmot Proviso to exclude slavery from any territory to be acquired from Mexico (1847). The bill was defeated in the Senate.

The Americans gained an empire with the end of the war with Mexico and the Treaty of Guadaloupe Hildalgo in 1848. For \$18,000,000 Mexico sold to the United States all the northern half of her territory, including all that region now known as California, Nevada, most of Arizona, New Mexico, Utah and a part of Colorado. The boundary of Texas was fixed at the Rio Grande. The war had made General Taylor a na-

tional hero and the Whigs nominated and elected him President over Cass, his Democratic opponent. The Oregon Territory was organized by a bill that prohibited slavery. The Mormons, expelled from Illinois and Nebraska, now permanently established themselves on the shores of Salt Lake, Utah. Chicago's great future was assured in the finishing of a canal that connected the Great Lakes with the Mississippi Valley. One of the great romances of American history, a tale that surpasses all fiction, began to unfold itself. A man, stumbling, had turned up with his foot a great nugget of gold in California. It was the signal for another migration, and the eager adventurous spirits of the whole land flocked to the golden shores of the Pacific.

Dawn of the Golden Age of the Great Pacific

THE dawn of the new age of the Pacific—the golden age—now awakened the young America. Under the name of the Forty-Niner (1849), representatives of every class of citizens in the United States, except the old slave-owners, became gold hunters. By the end of the year, forty millions of dollars of the yellow metal were found. Economic determinism here played a strange part in America's future. This event doomed all possibility of the extension of slavery in the West on two peculiar grounds: first, sociologically the eager gold hunters did not tolerate negroes working at their elbows; secondly, the negro was not physiologically adapted to the development of the mining industry. The exodus to California so increased its population within a few months that a constitutional convention at Monterey asked Congress to admit California into the American Union as a free State. A critical political situation now arose. If California should be admitted as a free State this would jeopardize the Southern majority in the Senate. But President Taylor, a Southerner, recommended the admission. The South was agitated. It demanded that the Missouri Compromise be extended beyond its original limits of the Louisiana Purchase, so as to include Southern California, making that part of the territory a slave State. It was at this stage, created by the discovery of gold, that the South began to threaten secession if California was made a free State. President Taylor died, and Fillmore, a Northerner, assumed the responsibility.

Coming events cast their shadows before them. The North and the South now set to work to formulate a truce in the Compromise of 1850—but it was only a truce. Both sections dreaded the thought of the future. Farseeing men everywhere saw the great nemesis it held in restraint—only soon to break over the nation like a tornado. A Southern convention had solemnly declared that a State had the abstract right to secede from the

Union. A compromise bill was passed admitting California as a free State, organizing New Mexico and Utah as territories, and forbidding their legislatures to restrict slavery, fixing the northwestern boundary of Texas as at present, and paying to the State the sum of \$10,000,000 for relinquishing its claim on Mexico. To pacify the South, a Fugitive Slave Act was passed, enabling a master or his agent to take a fugitive from a State in which he was residing, without jury trial in that State. It imposed a fine on all who interfered with the capture and recovery of fugitive slaves; it compelled all citizens who were summoned to aid in the capture to give their assistance; it provided a fee of ten dollars to be paid to a United States marshal for capturing slaves, and five dollars for capturing others. The slave trade was abolished in the District of Columbia.

Here, too, we find the genesis of the Panama Canal. The expansion of the United States, westward to the Pacific Coast, brought to the fore the problem of piercing the Isthmus of Panama with a canal, or one across Central America. England had secured control over the coast of the Mosquito Indians, occupying the only practical eastern terminal of a Central American canal. To persuade England to withdraw from this territory, the Clayton-Bulwer Treaty was negotiated. It provided that neither Government was to have exclusive control of the canal; that the canal must not be fortified, or the land about it colonized; and that neither Government should assume control over any part of Central America. Both Governments guaranteed the protection and neutrality of the canal. It was at this time that General Lopez, a Cuban patriot, came to the United States, organized a filibustering expedition, and invaded Cuba. After a passing success, Lopez fled and his followers were captured, but the Spanish authorities finally surrendered them to the United States.

The economic problem of slavery, despite the heroic measure of the statesmen, continued to fulminate. The attempt to execute the Fugitive Slave Law in the North created moral sentiment in 1851. The arrest of a single negro in Pennsylvania did more to arouse the plain people of the North than all the preachings and writings of William Lloyd Garrison, Wendell Phillips, and other abolitionists had done in twenty years. Many Northern States were quick to pass "personal liberty" laws, forbidding state officers to aid in capturing slaves, and preventing citizens from taking part in the return of fugitives. Underground railways were built from the border States of the South to Canada, by means of which many negroes were transported to freedom. Simultaneously, new issues were arising. Maine legally forbade the making and selling of intoxicating liquors. San Francisco, having drawn to itself, through the gold fever, the adventurers of the earth, was compelled to organize a vigilance committee to deal with

During this year, General Lopez headed another filibustering expedition to Cuba, and this time he was defeated, captured, and with fifty of his followers was executed.

The patriarchs of the American nation were now passing away. Daniel Webster—the last of the great triumvirate of Clay, Calhoun, and Webster-died. The leadership of the nation, in the great struggle it had now entered, had fallen upon the shoulders of new and younger men. was at this moment that an epoch-forming book now issued forth under the title of "Uncle Tom's Cabin"—a book which proved to be political propaganda that was to make history. The story, written by Harriet Beecher Stowe, filled the Northern heart with anti-slavery emotions. It had a more far-reaching effect than all the legislation or abolition agitation. It massed onto one stage of action, with all the intensity of the romanticist, situations intended to arouse moral sentiment. During this excitement, however, Franklin Pierce, a Northern Democrat, was chosen President.

American discovery now interrupted the agitation long enough to observe Dr. Elisha Kane, heading an Arctic expedition, reach a point that

remained for years "Farthest North," in 1853.

But only for an instant—when the scene turns again to the slavery Statesmen struggled with the problem. In the United States Senate, Stephen A. Douglas, an Illinois Democrat, brought forth a bill claiming that the Compromise of 1850 had displaced the Compromise of 1820 regarding slavery in the territories. Douglas proposed that the Northwest should be divided into two territories, Kansas and Nebraska, both north of 36°, 30', and that each territory should decide for itself whether slavery should be permitted or not. The bill became a law; it was immediately dubbed "squatter sovereignty." This resulted in the creation of a new anti-slavery party in the North, called at first the anti-Nebraska men, which culminated in the outbreak of civil war in Kansas between the slavery and anti-slavery factions.

Again public attention was diverted long enough to witness Commodore Perry, an American naval officer, head a naval expedition to Japan, and by threats, cajolery, and shrewd diplomacy, succeed in persuading the Japanese to open their ports to American trade (1854). From this date began what is called modern Japan. Canada and the United States practically broke down their trade barriers on the border and entered into a free exchange of their commodities. This season of commercial brotherhood lasted for twelve years, when the United States abrogated the treaty. Filibustering expeditions to Cuba continued and the Black Warrior was seized by the Spanish Government in the island. The American ministers to Great Britain, France, and Spain met at Ostend and drew up a mani-



VIEW OF THE UNIVERSITY OF MICHIGAN—It was chartered in 1837 and first opened at Ann Arbor, in 1841—It has nearly 7,000 students—The institution is part of the public educational system of the State.



LARGEST STATE UNIVERSITY IN AMERICA—This is a glimpse of the University of Minnesota, near Minneapolis—It was founded in 1868 and has more than 9,000 students—

It is the head of the system of public education in Minnesota,







GALLERY OF PORTRAITS OF PRESIDENTS OF THE UNITED STATES-1789-1809,

festo declaring that the sale of Cuba by Spain and its purchase by the United States was most desirable; but that if Spain refused to sell, the United States would be compelled to "wrest it from her."

The incipient anti-slavery war in Kansas now burst into a flame in 1855. The arrival of numerous immigrants from New England brought matters to a crisis. Emigration from the South was light, but the Missourians, who called themselves "Sons of the South," crossed into Kansas to establish a government, and to hold the best land until actual Southern settlers should appear. Rival governments were set up, and conflict followed. Lawrence was sacked by the pro-slavery forces. In revenge, John Brown, with his followers, massacred some of the "Sons of the South" at Pottawatomie. Kansas had become "bleeding Kansas." It was under this stress that the Republican party was born. It was in the form of a revolt against the Kansas-Nebraska Bill. The new party descended from the free soilers, and it gradually absorbed every party and faction in the country opposed to slavery.

Indian massacres were added to the slavery disturbances in 1856. The white man had made an enemy of the Indians in Oregon, and they attacked and massacred the settlers just as they had done two or more centuries before in New England and in New York. An episode now occurred that illuminated the intense bitterness of feeling gathering between the North and the South over slavery. Senator Sumner, of Massachusetts, more eloquent than judicious, made a speech in the Senate, denouncing several Senators because of the "Crime of Kansas." For this speech, Sumner was assaulted and beaten senseless by a nephew of the South Carolina Senator. The assailant was hailed as a hero throughout the South. The Democrats elected one more President, James Buchanan, out of the political struggle over slavery.

The slavery question finally reached the highest courts for judicature. Dred Scott, a negro, sued for his freedom, and the United States Supreme Court decided in 1857 that no negro, free or slave, was a citizen and therefore could not bring any suit at law. The decision implied that the Missouri Compromise was unconstitutional in its discrimination against slavery. The people of Kansas were now permitted to vote on the question whether they would accept a constitution with or without slavery. The free-soil people refused to vote for a constitution—one way or the other—and thus the votes "with slavery" exceeded those "without slavery" and slavery was declared established. The Democrats in Congress contended for the legality of this election.

The new republic was indeed heavily distressed. To add to the burdens another great panic swept the country—the panic of 1857. It sprang

from over-capitalization, the over-building of railroads, the rise in prices and mania for speculation following the discovery of gold in Australia and California, the diminishing of the specie reserve, bad crops in America and good ones abroad, bad State banking, and the diminution of the gold output. The whole country stood bankrupt. The last spikes were driven in a railroad, connecting the Atlantic with the Mississippi River, between Baltimore and St. Louis. The Mormons had grown at such rate in numbers and ambition that they demanded that Congress admit Utah as a State of the Union. Congress refused, and the Latter-Day Saints rose in rebellion. United States troops crushed the uprising.

America's Great Tragedy—and the Reconstruction of the Nation

E now look upon the tall, gaunt figure of the man who was to become the "savior of the nation." The greatest joint political discussion this country has ever beheld took place on the stump in the State of Illinois in 1858. The debaters were two strong men—Lincoln and Douglas. Here the issue assumed decisive form. Douglas supported his "popular sovereignty" doctrine as against the Dred Scott decision. The State-rights issue was now clearly before the people. There was no evasion; it must be decided in the next political campaign.

It was during this agitation that an event brought great rejoicing to both America and England, the laying of the first Atlantic cable by Cyrus Field (1859). A new and rich gold district was also discovered in the West and the "Forty-nine" rush was repeated. The discovery of silver in Nevada in Golconde quantities produced a group of Western silver kings who entered politics and set up a new standard in the United States Senate.

The slavery agitation fumed over in mob riot. John Brown, conceiving the idea of establishing a black republic, led a raid into Virginia to arouse the slaves. He was seized after a short fight by United States troops, tried, and executed. The event inflamed the South, which charged that Northern abolitionists had employed Brown to make war on them. The North hailed Brown as a martyr. Kansas now formed and adopted a constitution prohibiting slavery and asked admission as a State into the Union.

At last the storm burst upon the nation! It could not longer be held in political restraint. After eighty-three years of political experiment in the republic, the economic problem demanded decisive action. We enter upon the period of Civil War and Reconstruction (1861 to 1877—sixteen years). Lincoln was elected to the Presidency; Douglas was defeated. The South seceded—and the American Civil War fell upon the country like a tornado from overhead, an earthquake from underneath, and de-

vouring flame sweeping through the nation. These four years of terrific warfare are fully described in the chapter on "Great American Wars."

We will linger here, therefore, at the moment of crisis, only to record in this narrative the essential facts that South Carolina was the first State to leave the Union by calling a convention on December 20, 1860. The other States, supporting the doctrine of "State Sovereignty," followed within the next few months. On the eve of the Union's great crisis, the Prince of Wales, afterwards King Edward VII, visited the United States and reported to his mother, Queen Victoria, what he had learned. The seceding States organized a government with a constitution, called the Confederate States of America, with Jefferson Davis as President (1861).

The underlying causes of the Civil War were the doctrine of Popular Sovereignty and Slavery. Great Britain, on May 13th, recognized the Confederate States as belligerents. During this crisis the first telegraph line from St. Louis to San Francisco was built over the country from ocean to ocean and clicked and flashed through the Union. On New Year's in 1863, Lincoln brought into effect his celebrated Emancipation Proclamation, proclaiming all slaves free in the States in rebellion. This was the moral turning-point in the war, but it rallied around the Government all the moral power and energy of the Northern States. West Virginia, which had refused to secede, was admitted to the Union as a separate State. To emphasize the frightfulness of the times, the Sioux rose in Minnesota and committed their savage atrocities on the white inhabitants before they were crushed by General Pope. The war called for billions of money as well as legions of men, so Congress passed an extremely high tariff bill and an internal revenue law, taxing almost every sort of business by means of license and taking a heavy toll from liquor dealers and theaters. A tax was also levied on incomes for the first time in the history of the country. The rich silver mines of the Nevada region had attracted to it a sufficient number of inhabitants to admit it to statehood and under these circumstances Nevada became a sovereign State of the Union. The Stars and Stripes broke out from the flag-staff of Fort Sumter on April 14th, 1865, just four years, to the hour and the minute, from the time it had been hauled down.

On this historic day (April 14, 1865) there occurred the saddest personal event in the whole history of the country. President Lincoln was shot by John Wilkes Booth in Ford's Theater. This event came like a stab at the heart of the nation's rejoicings over the end of the Civil War. Jefferson Davis, who had fled South just before the fall of Richmond, was captured in Georgia and imprisoned on May 11, 1865. President Johnson succeeded Lincoln.

Foreign relations now engrossed the Government's attention. In 1861 a combined army of French, English and Spanish soldiers had gone to Mexico to hold her ports until she paid certain debts. When it was seen that Emperor Napoleon III of France had designs on the country, England and Spain withdrew their soldiers. In defiance of the Monroe Doctrine, the French Emperor set up Maximilian, brother of Francis Joseph of Austria, as Emperor of Mexico. As soon as the Civil War ended General Sheridan was sent to Mexico with 50,000 troops. The French withdrew, and the Mexicans reëstablished their republic, executing Maximilian. During this time also the Fenians, a body of men of Irish birth who had brought with them to America deep animosity against England and many of whom had served in the Union army, organized an expedition to invade Canada and succeeded in crossing the border, but after a short skirmish with Canadian troops they returned to the United States.

America Arises from Economic Ruin to World Power

E enter upon a new epoch—an epoch, which, after passing through the reconstruction days, brings us into an age of great inventions, industrial expansion, and world power. The United States purchased Alaska from Russia for \$7,000,000 in 1867. The critics

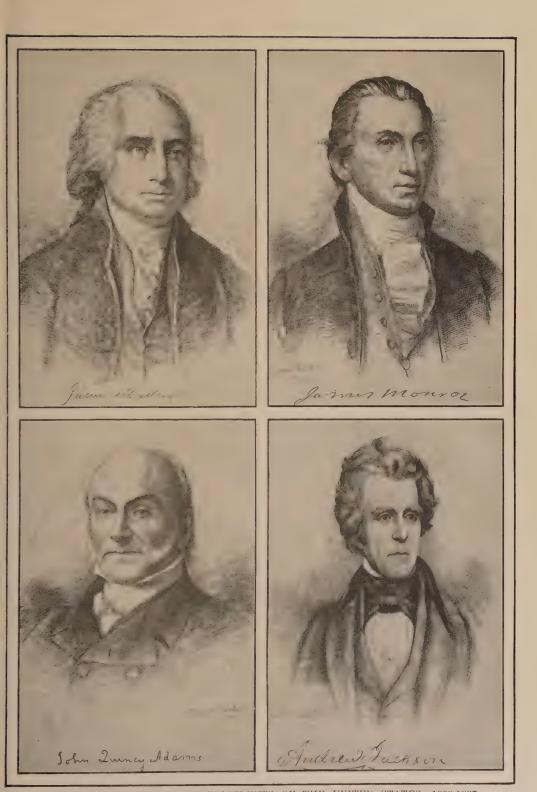
of Secretary Seward said it was "money thrown away."

The House of Representatives impeached President Johnson in 1868 for high crimes and misdemeanors in office and he was brought to trial—the only President of the United States ever tried on impeachment charges by Congress. It required a two-thirds vote to convict the President and take his office from him. His "radical" antagonists failed by just one vote to secure the necessary majority. All the Southern States except Virginia, Mississippi, and Texas, were readmitted to Congress. The Fourteenth Amendment to the Constitution was officially adopted by the States. On the following Christmas a final proclamation of amnesty was issued, pardoning all who took part in the rebellion. General Grant was elected to the Presidency.

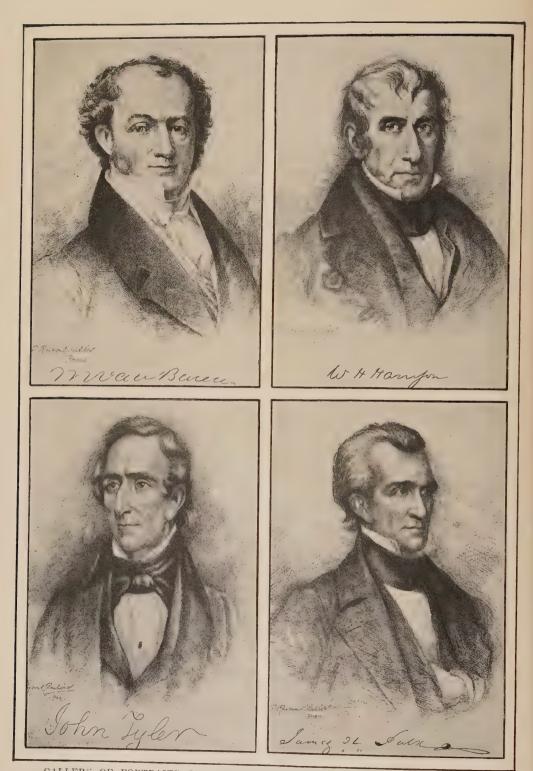
The panic of "Black Friday" swept the country in 1869. The continent of the United States was now conquered by rail. The Union and Central Pacific railroad, aided by a government bonus of \$27,000,000, drove the last spike in the Union Pacific railroad on May 10, 1869. The territories of Wyoming and Utah voted to allow woman suffrage on certain questions. The industrial expansion necessitated the organization of labor. The Knights of Labor, the father of all the labor organizations

in this country, was formed.

The final step in universal male suffrage came with the Fifteenth



GALLERY OF PORTRAITS OF PRESIDENTS OF THE UNITED STATES-1809-1837.



GALLERY OF PORTRAITS OF PRESIDENTS OF THE UNITED STATES-1837-1849,

Amendment to the Constitution, which was adopted by the States in 1870. The negroes everywhere now had the right to vote. The remaining Southern States were admitted to the Union after they had ratified both the Fourteenth and Fifteenth Amendments. President Grant, besieged more than any of his predecessors by an army of office seekers, advised Congress of the need of selecting Government officials from a competitive list. His message was a challenge to the Congress to lift the Civil Service of the Government above the greed and corruption of party politics. Congress authorized him to provide for examinations. But the Civil Service reformers were ahead of their times, for after three years Congress withheld the appropriation and the reform ended for the time. The great fire of Chicago occurred in 1871. Two hundred lives were lost and \$200,000,000 in property destroyed, but, when the smoke had cleared away, Chicago began to rebuild a greater city which since has risen to the rank of the second largest metropolis on the Western Hemisphere.

The aftermath of the Civil War prolonged itself through the years. It was only through the courage and character of the American race—and the inherent justice of its national ideals—that this period of reconstruction was safely passed. Claims were presented to England for the damage done during the Civil War by commerce destroyers of the Confederacy which had been built and fitted out in British ports. England had permitted the Alabama, a Confederate privateer, to prey on American commerce, but after the war the two countries had agreed to settle the claim by arbitration and a commission was appointed. It sat at Geneva, Switzerland, in 1872, and awarded to the United States damages to the amount of \$15,500,000 in gold to be paid out of the British treasury. At the same time there was another dispute between the two countries; both sides claimed the island of San Juan on the extreme northwest boundary of Canada. The question was finally submitted to the German Emperor, William I, who awarded the island to the United States. General Grant was again chosen President. The Southern States still suffered under the burdens of reconstruction. During these days, Boston was visited by a \$70,000,000 fire, destroying the business heart of the city.

The strength of the nation was now severely tested by another great financial panic which swept the country—the panic of 1873. It sprang from a combination of causes, among them were the over-capitalization of railroads and industries, need of currency to move crops, the heavy land mortgages in the West, unrest due to exposure in public life, the Boston and Chicago fires, and the growing extravagance in living. The failure of Jay Cook & Co., of Philadelphia, brought on the crisis. The panic ran for five years, reaching its climax with 5,000 failures in its last year. The

Spanish captured the *Virginius*, an American vessel carrying supplies to the Cuban insurgents, executed a number of American sailors and the United States went to the verge of war with Spain over the episode. The general

public was aroused.

The Southern States, goaded almost to despair by financial and political manipulators, known as the "carpet-bag" domination, attempted to throw it off in 1874. Business credit was now at such a low ebb in the country that Congress passed an act providing for the redemption of every legal tender note in gold after January 1st, 1879. Out of the opposition to this measure arose the "Greenback Party." Congress, persisting in its efforts to secure to the negroes the full enjoyment of their freedom in the South, passed another civil rights bill, forbidding discriminations against negroes in inns, public conveyances, theaters and other places of amusement. The Supreme Court wrote across this law the decision, declaring "rights" to be not civil but social and that in such matters the State and not the nation had jurisdiction. Charles Brush, the noted pioneer electrical engineer of Cleveland, invented the "Brush light" and thus increased by billions the resources and energies of modern humanity.

The first great industrial and commercial exposition of the country was held in Philadelphia in 1876, to celebrate the first century of the Declaration of Independence, the South sent its men and women with their wares, and for the first time within a generation the whole country breathed with the faint consciousness of a national spirit. This year was to end the crisis brought on by slavery and the agitation over it. After a bitter con-

test, Hayes became President.

The war between the North and the South had not only settled the question as to whether a State might secede from the Union; it had also given birth to an industrial revolution throughout the whole country. It has been said that the McCormick reaper released enough men from the farms in the North to allow five army corps to be put in the field against the South. With the abolition of slavery the South could no longer have agriculture as its sole industry and began to develop its resources. Birmingham, Chattanooga, and Atlanta became great industrial centers. Coal fields of almost unlimited extent were discovered and opened up. Even the cultivation of cotton was to improve in spite of the fact that it had heretofore depended almost entirely on slave labor.

America Conquers Its Obstacle and Marches Forward

HE nation that does not have serious problems to face is not making progress. Every step forward brings new obstacles to be conquered. The American nation has been beset by constant problems because it is constantly marching forward. Every new invention and every step of industrial progress creates new economic conditions that require adjustment. Thus arise the labor troubles, which are but fulminations of American energy and ambition. We now enter upon a new epoch, which may be called the Period of Expansion-1877 to 1900-twentythree years. This brings us to entirely new scenes in our rapidly moving story. It is a picture of wonderful expansion—invention, industrial progress, intermingled with exciting situations and rising to a great climax in the Spanish-American War. It includes the first telephone message, first electric lights, the building of Brooklyn Bridge and the Northern Pacific Railroad; the erection of the Statue of Liberty, the building of the West, Americans invading Cuba and the Philippines, and the triumph of the United States as a world power.

This is a period of stupendous plans brought to successful culmination. In the North, the use of petroleum for commercial purposes was to create a new giant industry. Bessemer steel, wire nails, cotton-seed oil, coke, and canned goods began to be put on the market and the output of them increased at an astounding rate. In the Northwest, the flour output was reaching immense proportions. And the United States was becoming the meat market for all Europe. The frontiers of the country disappeared soon after the war. Where there had been forests and untilled prairie, there now came to be prospering farms. The "Great American Desert" was no more, for as men penetrated the region they found that it could be made into good farm land. Cattle and sheep began to graze where wild hordes of buffalo had grazed two decades earlier. "Boom" towns came into being throughout the whole region, from the Mississippi to the Rockies, and from the Mexican Gulf to the Canadian border.

Under these circumstances, where there was more work to be done than there were men to do it, and where a new device had possibilities for profit, it was not surprising that mechanical inventions should come in quick order. A new transatlantic cable was laid. Dynamite was introduced. The Gatling gun became a part of the Government's ordnance. Barbed wire was used to close in the great ranches in the West. In the business world the typewriter came into use. On the railroads came the air brake, the car coupler and improved switches. The canning industries grew with improvements for turning out the cans in larger quantities.

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The newspapers installed presses that could produce tens of thousands of copies of one issue in a few minutes. The cable-drawn cars were introduced in the cities and the electric light began to be used to illuminate streets. Electricity came to be used for motors. All the minor and superior inventions, which mark the present generation's triumphs, had their beginning in this period—the phonograph, the telephone, the camera,

the bicycle, the gas engine, elevators and "skyscrapers."

Let us rapidly pass through these expanding years. We begin with railroad strikes in 1877, where the strikers destroyed \$40,000,000 in Pittsburgh and many millions in Chicago, when over one hundred rioters were killed by United States troops. During this distress, Alexander Graham Bell invented the telephone which was further to revolutionize American industry and inaugurate a new epoch. Congress remonetized silver in 1878 to raise the value of the white metal which had fallen to its lowest figures on account of the discovery of new mines. A Pension Bill was passed, allowing claims for "back pensions." A treaty was negotiated with China in 1880, stopping Chinese immigration to this country whenever desired. There was a triangular struggle in the National Republican Convention with Blaine, Grant and John Sherman as candidates. Garfield was chosen as the compromise candidate and was elected President. Party feuds agitated Guiteau to shoot President Garfield at the Pennsylvania Station in Washington on July 2, 1881. He died ten weeks later, and Chester A. Arthur became President. Edison improved on what Brush had done to light the world with electricity, and private companies began to install electric lighting plants in all the chief cities of the country. The Government sent Lieutenant Greely on an expedition for scientific research in the Arctic. Nearly all of his party perished, the survivors, including himself, being brought back three years later. There was held in 1881 in Atlanta a great Southern exposition in which the old South was reincarnated and rechristened the "New South," the "forward-looking South," the "young men's South." The exposition caused the North to open its eyes with admiration at the South's quick reaction and recovery.

The growth of the country was unparalleled. Congress passed a Chinese Exclusion Bill to keep the Chinese out of this country in masses in 1882. The assassination of President Garfield, who was called the "victim of the Spoils system," moved Congress to pass a Civil Service law in 1883, taking most of the minor government appointments out of politics and basing them on competitive examination. The postal service had grown to such an extent that letter postage was reduced to two cents. The Northern Pacific Railroad, the second ocean-to-ocean line, was completed and opened to traffic. The great Brooklyn Bridge, connecting Manhattan



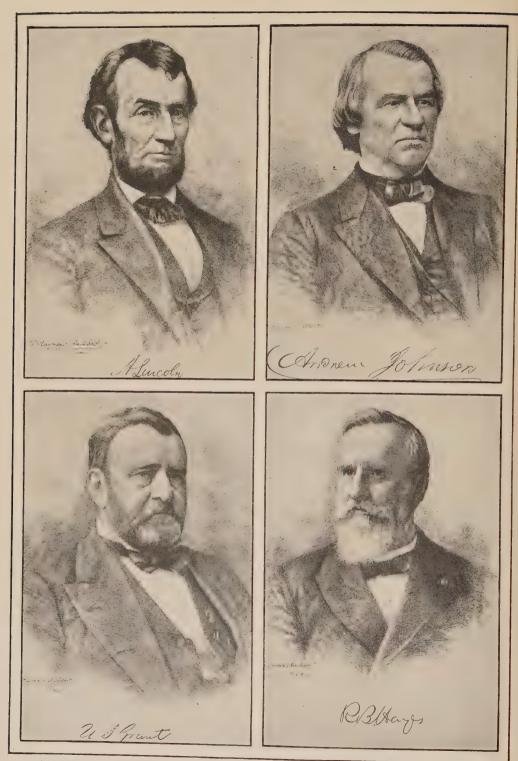
GALLERY OF PORTRAITS OF PRESIDENTS OF THE UNITED STATES -1849-1861.



FAMOUS PAINTING OF BATTLE OF GETTYSBURG—This historic canvas was historically arranged by John B. Bachelder; painted by James Walker; and engraved by H. B. Hall—It gives a correct panoramic view of the battle with the mountains in the distance.



URNING POINT OF THE AMERICAN CIVIL WAR—Here we look upon the Battle of Gettysburg, the greatest battle on American soil—It was fought on July 1, 2, 3, 1863—After a heroic struggle, Lee was forced to retreat and Meade led the Federal Army to victory.



GALLERY OF PORTRAITS OF PRESIDENTS OF THE UNITED STATES—1861-1881:

and Brooklyn, was completed, and on the first day one hundred thousand people crossed the bridge. The South made a further display of its great resources in an exposition at New Orleans. Grover Cleveland was elected President of the United States in 1884, the first Democrat in twenty-eight years.

The South now came back into the National Government in the robes of office, and with unspeakable joy. The people of France, with characteristic emotion, presented the Bartholdi Statue of Liberty to the people of the United States and it was erected in New York Harbor in 1886. The Apaches, the most savage tribe of all the red men, headed by Geronimo, were captured after committing many depredations, and after a long pursuit through New Mexico and Arizona. An earthquake that shook the whole South Atlantic seaboard from two to three hundred miles into the interior almost destroyed Charleston, South Carolina. Chicago was visited by labor troubles and the Haymarket riot created tense feeling between capital and labor. All industrial centers of the country were in such imminent peril of the labor wars at this time that New York, Missouri, Iowa, and Kansas found it necessary to establish State boards of arbitration, without, however, conferring compulsory powers upon them.

Labor, religion, invention, now crowded the public mind. The Supreme Court affirmed the Edmunds Law, dissolved the Mormon Church Corporation in 1887, and declared its property in excess of \$50,000 forfeited to the United States; the property was restored three years later. Congress now created another institution, the Interstate Commerce Commission, to prevent railroads when operating in more than one State from charging unfair rates or discriminating between persons. Out of the labor troubles was born the American Federation of Labor. Labor now forced Congress to exclude all Chinese laborers from the soil of the United States and not to readmit Chinamen who had returned to China. Cleveland took a strong stand for a "tariff for revenue" and was defeated for President by Benjamin Harrison. Edison invented the electrical trolley, and the first electric cars were run in the hilly streets of Richmond, Virginia. The invention was the greatest spur to the growth and progress of the American cities.

International relations intermingled with domestic problems. England, Germany, and America jointly occupied the Samoan Islands in 1889. The President declared the Behring Sea and the seal fur trade in Alaska closed to foreign nations. Fifty thousand persons, eager to own their own homes, camped on the borders of Oklahoma, and when the Government lowered the bars, rushed across the line. Massachusetts introduced the Australian Ballot system. A Pan-American Congress was held at Washington.

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Tremendous Developments of Last Decade of Nineteenth Century

HE last decade of the Nineteenth Century witnessed tremendous developments. The McKinley Tariff Bill and the Dependent Pension Law were passed. Railroads, oil, sugar, meat, tobacco, leather, lumber, steel, became such gigantic industries that each was organized into great trade units, and trusts or monopolies now began to spring up all over the country. This great movement in industry caused Congress to pass the Sherman Anti-Trust Law to prevent restraint of trade in interstate commerce. But for years the law lay moribund in the Federal Statutes while the trusts went on growing into huge combinations of capital. The Mergenthaler typesetting machines were introduced in the printing industry, and the day of the one-cent newspaper was dawning.

The workers in the steel mills at Homestead, Pennsylvania, went out on a strike and one of the most violent labor wars ensued in 1892. Cleveland, who held on tenaciously to his lower tariff policies, came back into the White House—the only President of the United States who had suc-

ceeded himself after an interregnum.

The spirit of annexation, or imperialism, now arose. Queen Liliuokalani, of the Hawaiian Islands, had been overthrown by a party of revolutionists. Among them were some Americans, and strong pressure was brought in the United States to have the Government annex the Islands in 1893. President Harrison had sent a treaty to the Senate, making the Islands American territory, but before the treaty was ratified, Cleveland entered the White House and withdrew it from the Senate. The Behring Sea Commission met at Paris and rejected the claims of the United States to control seal fishing outside of the three miles' limit. Colorado granted full suffrage to women. The World's Columbian Exposition was held at Chicago and its most unique feature was a world congress of religions and creeds, bringing to the same platform, Brahmans, Buddhists, Mohammedans, and Christians. The business faith of the country was severely shaken by the hoarding of gold and the fear of radical tariff legislation. The country was plunged into a terrific panic; a million people in the United States were forced to depend on charity in municipal soup kitchens.

The Pullman car factory employees of Chicago went on a strike in 1894, that surpassed all its predecessors in the destruction of property. United States mail cars were stopped. Cleveland sent battalions of United States troops to Chicago to check the violence. John P. Altgeld, the "Labor" Governor of Illinois, protested that the President's action was an

illegal interference with the government of the State.

International complications under the Monroe Doctrine arose in 1895.

Great Britain was about to force Venezuela to accept a disputed boundary line. The United States urged that the dispute be left to arbitration. The British Cabinet replied that the matter did not concern Washington, and in substance that it take itself out of the business of protecting Latin-American countries. President Cleveland, who had nailed his flag to tariff reform rather than be elected without it, who had driven a hostile Congress to demonetize silver, and who had defied lawlessness, met the situation with an iron hand—he wrote the strongest message on international relations that had ever issued from the White House. He invoked the Monroe Doctrine, a policy which England had long claimed with pride to have inspired. Congress upheld him and England and Venezuela arbitrated the question.

The next step of importance, which was to engage the Government's attention, was to lead the country into war. The islanders in Cuba for years past had been fighting for independence from Spain, and the Spaniards had been retaliating with cruel measures, which brought criticism from the American people. Congress, in 1896, recognized the belligerent rights of Cuba and the President tried to persuade Spain to grant it independence.

With McKinley and the Republican Party coming into the Presidency in 1897, came the Dingley Tariff. In the Yukon, a rich deposit of gold was discovered and there was a rush of a multitude of gold hunters to this region, which lay on both sides of the Canadian-Alaskan frontier, and which created some friction between Canada and the United States. New York City, with all its suburbs, was consolidated into "Greater New York."

The moment now came when, by a series of events, the United States was to stand before the nations of the earth as a great world power. The Hawaiian Islands were annexed to the United States in 1898. The continued repressive policy of Spain in Cuba increased the filibustering expeditions from America to such an extent that the Government was compelled to police many of its ports to maintain neutrality. During this growing tension the American battleship *Maine* was blown up in Havana Harbor, carrying to their death over 250 of her crew. Congress issued an ultimatum, demanding the withdrawal of Spain from Cuba. On her refusal, Congress declared war, on April 28, 1898. (See Chapter on "Great American Wars.")

The last year of the Nineteenth Century was a crowning year for the triumphant republic. It saw the end of an old era—and the beginning of a new democracy. Great problems figuratively fought for decisive action.

The new century marked the dawn of the new age—the golden age of American achievement. The story of the American people now moves

rapidly to its grand climax, increasing in its intensity. The new century begins with the assassination of McKinley, and with Roosevelt taking the oath of office. Here we witness the rise of the American people to their glorious position as the greatest nation on earth. We follow Roosevelt and Taft and Wilson. We pass through great news events. We meet Peary, the discoverer of the North Pole, and other great men of achievement. We see the building of the Panama Canal; we go to the Pacific Expositions. We begin to realize the vastness and greatness of our country to-day; its tremendous richness, its natural resources, its great cities, its rivers and mountains; its scenic beauties; its great engineering achievements; its magnificent buildings.

The East, West, North and South are brought before the eyes of the people—mines, wheat fields, orchards, vineyards, fisheries, sheep and cattle

ranches, the great animal and agricultural wealth of the nation.

Let us glance quickly at the cinematographic record of events as they pass before us. Provincial America is now a world power—stretching into the Orient. Hawaii, petitioning for annexation, was organized as a territory in 1900. Civil Government was established in the Philippines. Porto Rico also became a dependency, receiving a civil government. Cuba was allowed to set up a government of its own, with the understanding that it was to be under American supervision until such time as it was well able to care for itself. Disorders in China led to the killing of foreigners, Americans among them. Co-operating with England, Germany, and France, the President ordered warships and land forces to China. The allied forces put down rebellion and took the city of Pekin. A heavy indemnity was exacted of the Chinese by the countries involved, but the American Government wisely returned all sums over what it considered just compensation—a deed which brought its reward in the good will of the Chinese and a good market for American goods.

The Samoan Islands under the joint protection of Germany, England, and the United States were divided in 1900, the United States taking Tutuila. McKinley again defeated Bryan for the Presidency on free silver with the new issue of Imperialism injected. A gigantic coal strike occurred in the Pennsylvania mines, seriously threatening all the Eastern

cities with a hard coal famine for the winter.

McKinley, the third President of the United States to be assassinated, was shot by an anarchist at the Buffalo Exposition in 1901, just after the President had finished his greatest speech. Roosevelt succeeded to the Presidency. The Hay-Pauncefote Treaty, superceding the Clayton-Bulwer Treaty, was negotiated between England and the United States, giving the latter the sole right to build the Isthmian Canal and to be its owner



GALLERY OF PORTRAITS OF PRESIDENTS OF THE UNITED STATES-1881-1897,



GALLERY OF PORTRAITS OF PRESIDENTS OF THE UNITED STATES-1897-1917.

and protector, while at the same time making it a natural waterway. The United States at first chose the Nicaragua route but later settled upon the route at Panama. Marconi, an English resident of Italian nativity, in experimenting with the Hertzian waves of electricity, discovered a practical means to employ these waves to send messages without wires.

Industrial Age at Dawn of Twentieth Century

HE industrial age now set in with tremendous momentum—a season of unprecedented prosperity began. Great numbers of "trusts" were organized under the favorable laws of New Jersey, reaching their tentacles over the whole country. Another gigantic coal strike in Pennsylvania occurred in 1902. President Roosevelt persuaded the mine owners and the miners to arbitrate the dispute. It was settled on terms largely in favor of the miners. Funds from the sale of public lands were appropriated for the irrigation of Western lands and huge dams and reservoirs were constructed in Colorado and other neighboring States. Morgan organized the great "shipping trust" of freight lines across the Atlantic. Marconi came to America and sent a wireless message across the ocean to Europe.

Great developments require constant readjustments. With the rise of the powerful combinations of capital the Elkins Anti-Rebate Bill was passed in 1903, increasing the power of the Interstate Commerce Commission over shippers. A large number of railroads were brought under the scrutiny of the courts. A low tariff between Cuba and the United States was adopted. The boundary of Southern Alaska was fixed by a court of joint arbitration. The United States and Colombia had not succeeded in negotiating a treaty, for the right of way of the Panama Canal, when a revolution broke out on the Isthmus of Panama, setting up a separate government. President Roosevelt recognized the new republic, negotiated a treaty with it instead of Colombia, and thus established the Canal Zone. Congress created the Department of Commerce and Labor, and gave it power to investigate the organization and general management of any corporation other than railroads engaged in interstate commerce. The investigations resulted in numerous suits brought by the Government against "trusts." The Government brought suit against the Northern Securities Company on the ground that it was an organization whose acts were in restraint of interstate commerce, and the United States Supreme Court sustained the Government. The court also decided that the "Beef Trust" was a combination that restrained interstate trade.

The new régime was in full operation. Roosevelt was elected President by the largest majority ever cast, over two million votes. The third

International Exposition on American soil was held in St. Louis in 1904 to celebrate the Centenary of the Louisiana Purchase. The United States took charge of the custom houses of San Domingo in 1905 in order to manage the country's foreign indebtedness. President Roosevelt acted as mediator in the Russo-Japanese War, and the two nations signed a treaty of Peace at Portsmouth, New Hampshire. A number of great life insurance companies of New York were investigated by a legislative committee and reorganized to meet the demands of the new economic reformation.

World power brought to America larger responsibilities. General Wood pacified the "Moros" in the Philippines in 1906. Cuba became turbulent, and the United States resumed the military occupation of the island. Secretary of State Root visited South America as a delegate to the Pan American Congress, cementing friendship with America's southern neighbors. Congress voted to construct a lock canal across the Isthmus of Panama. The Interstate Commerce Commission was authorized to fix a minimum rate for the transportation of certain articles. Congress passed a Pure Food Law, forbidding the sale of impure foods in interstate trade and requiring the manufacturers of patent drugs to name all ingredients that might be considered injurious. This law supplemented the State laws against impure foods.

The economic readjustments created a financial disturbance in 1907. Georgia and Alabama voted for State prohibition and the movement spread to Kentucky and other States. Judge Landis, of the United States Circuit Court, in Chicago, imposed a fine of \$29,240,000 on the Standard Oil Company, the biggest fine ever imposed by a court. John D. Rockefeller gave \$32,000,000 to continue the work of the General Education Board.

cation Board.

The American Navy, under the command of Admiral Evans, sailed from Hampton Roads in 1908 for a cruise around the world, the most splendid armada that ever circled the globe. President Roosevelt, while refusing to be a candidate again for the Presidency, declared for Secretary Taft, who was elected. The National Civic Federation, with representatives of both Capital and Labor, met in New York. Congress organized the Inland Waterways Commission; the Monetary Commission organized under Vreeland-Aldrich Currency began its session in Washington. The United States withdrew from Cuba and the island government was restored in 1909. The Payne-Aldrich Tariff was passed. The United States and Great Britain submitted to the Hague Tribunal a dispute over fisheries.

Then came the great discovery—on April 9th, 1909, Lieutenant

Peary, who had spent twenty years and a half million dollars in Arctic Expeditions, stood on the apex of this globe at its North Pole—and planted the American flag. The Government created a postal savings bank to encourage thrift by inducing the people to make small deposits. The governors of the various States met in Washington and organized the House of Governors as a clearing house for the discussion of State legislation. So great had grown the volume of litigation from the work of the Interstate Commerce Commission that the Court of Commerce was created to take care of it and the powers of the Commission were increased so that it could investigate a carrier without first having received a complaint. The jurist, Charles E. Hughes, who had made a unique record as reform Governor of New York, accepted a place on the bench of the Supreme Court of the United States.

Gigantic Growth of Nation Requires Economic Readjustments

THE wonderful growth of the country caused economic inequalities. With such rapid progress it was hardly to be expected that all social factions should keep pace. It is interesting to note, however, that no single interest is able long to maintain itself at the expense of the others. It is especially to be witnessed that whenever danger arises, then democracy asserts its power and assumes control. The trusts had scarcely reached a state of organization when they were levelled by the demand of the populace. The voice of the multitude arises and the strong arm of democracy strikes whenever and wherever its welfare is threatened. This was proved many times in these early years of the Twentieth Century. The increase in the cost of living created much dissatisfaction and was charged against the corporations. The trusts and the Payne-Aldrich Tariff were severely blamed. There was also much unrest in labor circles. On many of the great railroads demands were made for higher wages. Several systems granted a considerable increase. The population of the country had grown 44 per cent. in twenty years, while the expenditures of the Federal Government had increased 170 per cent. In the midst of this agitation the Supreme Court ordered the rehearing of the suits against the Standard Oil and Tobacco Trusts. Woman Suffrage was adopted in the State of Washington. This new addition to woman suffrage gave the movement a new momentum and plans for the organizing of campaigns were made in the Eastern States.

The year 1910 had its full share of strikes throughout the country, and the great burden of the people was the high cost of living. The Democrats charged it to the Payne-Aldrich Tariff; the Republicans attributed it to greatly increased production of gold; and many economists

blamed it on the increasing luxuries of the people, or "the cost of high living." The eleventh census of the United States showed that there were in the continental United States 91,972,226 people as against 75,-994,596 in 1900. About 45 per cent. of the population were urban. In the older States there was a relative decline of rural population.

Economic readjustment stirred the business world. Congress passed a reciprocity bill with Canada in 1911, but the Dominion rejected it. The Supreme Court ordered the Standard Oil Company, which controlled sixty-five companies, to dissolve within six months. But in doing so the court reassured business that reasonable restraint was not illegal. Two weeks later the court ordered the American Tobacco Trust to dissolve within six months and directed the lower court to devise some way for rearrangement. The Steel Trust was also investigated but as its monopoly had decreased from 60 to 50 per cent. in control of its ore output, it was not then prosecuted.

Arizona and New Mexico, the last remaining territories in the continental United States, were admitted to Statehood; there were now forty-eight stars on the flag of the republic. Congress passed a resolution to be submitted to the States for ratification, amending the Constitution so that United States Senators could be elected by popular vote. The Amend-

ment was ratified by the States two years later.

Trust were now collapsing like a house of cards in 1911. The Wire Trust dissolved itself; the Electric Trust was dissolved. The Steel Trust announced its intention to cancel its lease on its northern lands and to reduce rates on its railroads, but notwithstanding this concession the Government brought suit against this trust. The Standard Oil and the Tobacco Trusts presented plans for reorganization and they were accepted. The treaty with America's old historic friend, Russia, was abrogated because Russia had refused to admit naturalized American Jews who had left the Empire without complying with the regulations as to expatriation. The Supreme Court legalized the corporation tax and the Federal Reservation of forests without the consent of the States containing the forests. The Woman's Rights movement captured California by having a suffrage clause put into the State's Constitution and giving them also the right to become jurors. The women had now practically conquered their cause in the Far West and they turned their faces to the East with onward wills.

On the morning of April 16th, 1912, the whole world was startled by the greatest steamship tragedy since the American invention revolutionized the seas—the sinking of the giant White Star Liner *Titanic* on her maiden voyage, by striking an iceberg in the North Atlantic on the night preceding at about 11 o'clock. Over two thousand persons perished,



BATTLES WITH MIAMI INDIANS IN COLONIAL WARS—This American tribe opposed the encroachment of the white man in the Middle West—They kought with Pontiac's alliance in 1764 and were defeated by General Wayne in 1795—They joined the British against the Americans in 1812 and fought under Tecumseh.



CONFLICT BETWEEN WHITE RACE AND RED RACE ON AMERICAN CONTINENT—The early years in American history are filled with bloody wars with the Indians—There were a million Indians divided into tribes, under patriarchal rule, speaking over one hundred dialects, on the present domain of the United States.

a large portion of whom were Americans. A lunatic, named Shrank, shot Roosevelt in Milwaukee, but the wound did not prove serious. Wilson was elected President. The Supreme Court ordered the Union Pacific to discontinue its control over the Southern Pacific, which it had acquired through the "Harriman Merger." The Pujo Congressional Committee investigated the "Money Trust." The Committee reported that there were evidences of a money trust, that is, the concentration of capital in the hands of a small group of great bankers, and proposed legislation for clearing houses and banks. Michigan, Oregon, Kansas, and Arizona were added to the States granting suffrage to women, making in all ten States. A strike that attracted unusual interest occurred among the 14,000 Slavs and Italians in the woolen mills of Lawrence, Massachusetts. The strike had been caused by a reduction of wages on account of shortening hours of labor by State legislation. It was organized by "Industrial Workers of the World" and grew so violent that the State militia had to be called out. There was bloodshed, but the dispute was finally settled in favor of This was the most important of a number of strikes in the the strikers. country, all mainly caused by the high cost of living.

Triumph of Democracy and Financial Reconstruction

THE trend of democracy gathered momentum. The United States Supreme Court declared illegal the Patten pool in cotton as a restraint of trade under the Sherman Anti-Trust Law in 1013. Cash Register Company was adjudged as doing business in restraint of trade by a Federal Court; on appeal to the higher court this decision was reversed. The Constitutional Amendment, levying an income tax, was ratified by the States. President Wilson called Congress in special session to pass a tariff and other legislation. The United States withdrew from participation in what was called the Six Power Loan in China. The California Legislature passed a law prohibiting aliens ineligible to citizenship from owning land in the State. The Japanese ambassador protested that the act violated the treaty of 1911, but this treaty gave the Japanese the right only to lease land and own or lease buildings but did not specify agricultural lands. Secretary Bryan hastened to California and made a speech before the legislature with a view to preventing the passage of the bill or of modifying the legislation, if possible. The fiftieth anniversary of the Battle of Gettysburg was celebrated on July 4th, 1913. the President addressing 55,000 Union and Confederate War Veterans encamped on the ground.

The economic revolution in Mexico threatened the peace of the United States. In the revolt against Madero's government the Mexican

executive was murdered. General Huerta seized the office and another revolution was started in the North to depose him. President Wilson sent Ex-Governor John Lind, of Minnesota, as an envoy to Huerta to request him to resign from the Presidency and to convene an election at the earliest possible moment at which Huerta himself should not be a candidate. President Wilson believed that Huerta had usurped the office, possibly by complicity in the assassination of Madero, and refused to recognize him as the constitutional President of Mexico. Huerta refused to accede to the President's wishes and the Mexican War continued.

Radical readjustments in our domestic affairs now took place. The Underwood Tariff was passed, greatly reducing the custom duties. The Currency Bill was passed, creating a Federal Reserve system of banking with twelve reserve banks situated in twelve cities of the United States. Michigan adopted the Initiative and Referendum. Pennsylvania passed a eugenic marriage law, requiring candidates for matrimony to present certificates of health from physicians. Illinois adopted woman suffrage to the limit of its constitution. The "Industrial Workers of the World" engineered another serious strike among the employees of the textile mills in Paterson, New Jersey.

American finance was now undergoing a complete reorganization. As a result of the report of the Pujo Committee, members of the great banking house of J. P. Morgan and Co. voluntarily resigned from thirty out of thirty-nine directorships in 1914. Morgan retired from the directorship of the New York Central Railroad and the Western Union Telegraph Company, while his partners retired from the United States Steel Corporation and the Westinghouse Electric Company. Other bankers followed

the Morgan example.

World affairs seemed to concentrate in America. The President, deeming that there was no constitutional government in Mexico, removed the embargo on arms to aid the insurgents to drive Huerta from his office. England protested against the Canal Toll Bill, exempting American coastwise shipping from paying tolls in the passage through the Panama Canal. President Wilson went before Congress with a message in which he declared that the nation was "too big and powerful and self-respecting" to put a strained interpretation on its promises, and the bill was repealed.

A party of American blue jackets from Admiral Mayo's fleet at Tampico, Mexico, while ashore to obtain petrol, was arrested by the authorities of the Huerta Government. The Americans were soon released, but the Admiral demanded that the Huerta Government apologize by firing a salute of twenty-one guns to the American flag. Huerta replied that he

would comply if the Mexican flag should be hoisted with the American flag and both flags be saluted together. The Washington Government objected on the ground that this would amount to a recognition of the Huerta Government. President Wilson laid the matter before Congress and asked its authority to use the military and naval forces in Mexico in such a manner as to enforce the dignity of the United States. But before this authority was granted by Congress, Admiral Fletcher, with a fleet, was dispatched to Vera Cruz to seize the custom house. The Admiral demanded the surrender of the town, and on being refused, he landed a battalion of marines, who were fired on by snipers. The ship bombarded the barracks and the naval academy, while the marines took possession of Vera Cruz. Commissioners from Huerta's Government met the ambassadors to America from Brazil, Argentina and Chile, with representatives from the United States Government at a conference at Niagara Falls. The insurgents were invited to send representatives to this conference but they did not officially do so. The conference hastened the fall of Huerta by demonstrating to him that the stable South American republics were opposed to his régime. Huerta fled from Mexico and sailed for Spain.

The period of financial reconstruction, caused by overgrowth of huge industries, continued. Interlocking directorships were forbidden. The great railroad system in New England—New York, New Haven and Hart-

ford—underwent reorganization.

World Problems Culminate in World War

THE culmination of world problems came with the outbreak of the Great War in Europe in 1914. A tremendous financial crisis in America was averted by quick action. An immense amount of stock, both domestic and foreign, would be thrown on the market the next day, creating a panic by taking all the gold out of the country. The governors of the New York Stock Exchange decided not to open the market and run this great risk. For nearly six months the Exchange remained closed from fear of a deluge of stocks. The whole business world of America trembled under the great shock. Commerce piled up on the wharves of New York, Boston, Baltimore, and other eastern cities, for the whole transatlantic shipping trade had become demoralized. The Mauritania and the Cedric, under temporary precaution, put into Halifax. The Kronprincessin Cecilie, with \$10,000,000 gold for London, fled back across the Atlantic under a wireless message from Berlin and ran into Bar Harbor, Maine. Emergency currency for \$500,000,000 was ordered printed for any sudden emergency that might arise. Great numbers of Americans were caught in the European War Zone, and for nearly a month

a frantic cry for help to get them home rang across the Atlantic. The American Government sent \$250,000 in gold and two or three ships to res-

cue these stranded travellers.

President Wilson at once rendered his services for meditation to the warring nations and issued a proclamation of strict neutrality. The American Red Cross issued a call for money to prevent the Belgiums from starving and the response was both instant and generous, over \$20,000,000 in American food and clothing reaching the destitute before the New Year. Secretary Bryan secured signatories to twenty-three arbitration treaties and twelve peace commissions, giving a year of grace for discussion of an issue between two nations before either should force the issue. Congress passed the Trade Commission Act, creating a tribunal to arbitrate commercial disputes, and the Clayton Anti-Trust Bill, preventing interlocking directorship. An emergency war taxation bill producing \$100,000,000,000 was passed. No sooner had the war broken out in Europe than a campaign for and against armaments was started in the United States.

The eventful year of 1914 closed with complex problems. The Miners' Union called out 11,000 miners because the owners had refused their demands, which included freedom to buy provisions and supplies when they pleased, to choose their own doctors, the right to elect their own chief weigher. President Wilson appealed to both sides to try to end the strike and it was finally settled by a commission. The Cape Cod Canal, connecting Buzzard's Bay with Barnstable and dispensing with the long sea route around Cape Cod between Boston and New York, was opened; it cost \$12,000,000. The Panama Canal was unofficially opened to general traffic. The first vessel, steaming through the canal, was the United States vessel Ancon, 6,000 tons, at the head of a long fleet of steamers.

America—The Hope of the Peoples of the Earth

HE remarkable year of 1915 was ushered in with world war, economic reconstruction, and a general assay of civilization. It was announced that a group of American bankers had made a loan of \$15,000,000 to Argentina. This fact is significant, as it is the first time that an American banking institution has ever loaned money to a South American country. It indicates the practical effort that is now being made to cement friendship and trade relations with Latin-America. President Wilson, in an address in Washington, laid down the following principles for the conduct of business: First—publicity of operation; second, full equivalent for the money; third, conscience in transactions; fourth, spirit of service. The creation in the United States in time of



WASHINGTON TAKING COMMAND OF AMERICAN ARMY—This scene was enacted at Cambridge, Massachusetts, in 1775—He assumed responsibility of defeating the armies of the most powerful nation of the world—Washington refused to accept pay for his services—After eight years he led his army to victory.



FIRST REVOLT AGAINST TYRANNY—This is the historic Boston Tea Party—On the night of December 16, 1773, fifty men disguised as Indians rushed to the wharf, boarded the ships, broke open the chests, and threw 342 chests of tea valued at about £18,000 into the Boston Harbor.

NARRATIVE HISTORY OF AMERICAN PEOPLE

peace of the same kind of united spirit which moves nations during wars was advocated by the President. North Dakota, Oregon, South Dakota all abolished capital punishment. More than six hundred business organizations were represented at the meeting of the American Chamber of Commerce in Washington. Every State in the Union and all the island dependencies sent delegates to the greatest commercial congress ever assembled. The legislatures of Alabama, Iowa, California and Pennsylvania passed laws prohibiting child labor.

The European War drew America dangerously near the maelstrom. The contraband question loomed large on the horizon. Copper and brass sent from New York to Germany was seized at Copenhagen. So many steamers with American cargoes were held up by English warships that the United States determined to furnish inspectors to certify cargoes. An arrangement was made between Germany and Austria on the one hand, and Great Britain on the other, for American representatives to inspect war prisons. The United States sent notes to both Great Britain and Germany concerning the war zone in the North Sea and around the British Isles. President Wilson advised the German Government that the American Government would hold it responsible for any loss of American property or lives. In both notes it was suggested that Great Britain and Germany restrict use of mines, and abandon submarine attacks on merchant vessels.

The beginning of 1015 found the Government of Mexico in the hands of two rival factions. Many thousands of non-combatants were reported as starving. President Wilson informed General Carranza that unless there was an improvement in conditions with respect to foreigners in Mexican territory under his control, it might be necessary for the American Government to obtain the desired protection. The Panama Pacific Exposition was opened in San Francisco, forty-five foreign nations and forty-three States and Territories sent exhibits. A great American industry, the Ford Motor Company, of Detroit, Michigan, shared \$10,000,-000 with its 20,000 employees at its Detroit and branch factories, giving an exhibition of the workings of the biggest profit-sharing scheme organized in America. Alabama, Arizona, Colorado, Arkansas, Oregon, and Utah all joined the state-wide prohibition States. The Dalles-Celilo Canal, opening the Columbia River from the Pacific Ocean to Lewiston, Idaho-475 miles-was finished after ten years' work at a cost of nearly \$5,000,000 by the Federal Government.

The European War began to write many great events into the pages of American history. The most serious and dramatic of them all was the destruction of the Cunard Liner, *Lusitania*, off the coast of Ireland, by

a torpedo fired from a German submarine without warning; 1,365 lives were lost out of a total of 2,160 aboard the steamer. The number of Americans who died was placed at 107. Many of those who perished were women and children. No event of the war had so shocked the civized world. Before the steamer sailed from New York, the German Embassy at Washington had assumed the task of warning Americans not to go aboard of the steamer. After all the facts relating to the sinking of the Lusitania had been ascertained, and when the excitement had somewhat receded, President Wilson addressed a note to the German Government warning it that the American Government would expect it to disavow the act, make reparation for it, and promise to stop the destruction of non-combatants on passenger ships in the war zone. Secretary of State Bryan resigned from the cabinet, giving as his reason his pledge to the "peace at any cost" policy. For months the controversy continued, the German submarines in the meantime sinking other ships, with the loss of American lives. Among other things the controversy had the effect of emphasizing the cleavage between the faction for preparedness for war and the faction for peace. President Wilson stood by his strict neutrality policy and a long series of diplomatic negotiations resulted.

It is at this point that this rapid survey of more than four hundred years of American civilization is brought to a close. Later events must require adjudication before they have reached the state of finality which admits them to permanent historical record. An analysis of the narrative, through which we have just passed, will give the reader a broad comprehension at least, and perhaps a realization of the purpose and trend of American progress. It depicts the noble struggle that it is making against all obstacles—the courage and sacrifice with which it faces every problem. Moreover, it proves overwhelmingly that if at times the spirit of democracy seems to be stifled, it arouses itself to herculean strength whenever the re-

public seems endangered.

The great story of the American people is now rising to its grand climax. We stand at the gateways to the New World (the harbors of New York and San Francisco) and watch the people of all nations flocking into the country. Here we see groups of men, women, and children of all nationalities who have come to America to cast their lots in the future of this vast land of opportunity—Germans, Italians, Russians, Chinese, Africans, Hindoos—peoples of every race and climate from all corners of the earth—a great moving, throbbing panorama of human life. The great procession of men and events comes to its close with the peoples of the earth gathering for protection under the American flag—the flag of Triumphant Democracy!

"We hold these truths to be self-evident that all men are created equal; that they are endowed by their Creator with certain unalienable rights; that among these are life, liberty, and the pursuit of happiness."

—Declaration of Independence.

HE American people are working out the problem of the ages—
the problem of setting up before the world a complete realization of the long-sought ideal of "government of the people,
by the people, for the people." The Mosaic laws proclaimed
it; Athens attempted it before the dawn of the Christian era; Rome declared itself a republic. There were flourishing republics in Italy in the
Middle Ages. But it has remained for America to demonstrate the permanency and practicability of this great principle. All preceding attempts
failed.

The future of the American nation is with the people—they hold its destiny in the hollow of their hands. We have proclaimed to the world the divine right of the people to govern themselves. We have further declared that "whenever any form of government becomes destructive of these ends, it is the right of the people to alter or to abolish it, and to institute a new government, laying its foundation on such principles, and organizing its powers in such form, as to them shall seem most likely to effect their safety and happiness."

This declaration places upon every American a tremendous responsibility—a moral responsibility greater than has ever before been borne by men. For, if this rich inheritance of Liberty is to be bequeathed by every American to his children as a priceless heritage, it must be preserved by each individual. And this means allegiance to the sacred principles set forth in the Declaration of Independence and to the doctrines established in the Constitution of the United States—the most perfect instrument that human intellect and human justice have yet been able to conceive.

Burke in his "Reflections on the Revolution in France" sounded a warning when he exclaimed: "What is Liberty without wisdom and without virtue? It is the greatest of all possible evils; for it is folly, vice and madness, without tuition or restraint." It was Madame Roland who cried: "O Liberty! Liberty! how many crimes are committed in thy

name!" And Polybius warned that "government may take the fairest of

names, but the worst of realities-mob rule."

On the integrity of self-government, therefore, the very existence of the republic depends. It rests on the maintenance of the integrity of the laws made by the people and a faithful adherence to the rule of the ma-

jority, for "where law ends-tyranny begins."

Self-government is a process of slow growth, guided by wisdom, and held in restraint from passions and impatience. It must mold itself wisely into the ever-changing forms of social evolution, and must adapt itself to the needs of the largest number of people—working out conscientiously the fullest possible measure of justice. Its greatest danger is in the impatience of the minority; its greatest enemy is anarchy; and its arch-traitor is mob violence. "Irresponsible government spells ruin."

It is with this borne fully in mind that we will give a brief discussion of the system under which we are endeavoring to work out the problem of democracy in the United States. It would be folly to claim that we have a perfect system. Alas, we find too often that we are far from our ideals—far from economic justice—but we do know that we have the firm foundation upon which to build the instrument with which to work, and the machinery of government, which, if properly administered, weighs justice in the scales more accurately than any other system that the genius of man has been able to devise. Let us examine this machinery:

How the American Government Is Operated

HE American Government is that of a union of forty-eight States all working for a common purpose—liberty, justice, equality. It is a democratic republic. The chief instrument of government is a written constitution. This working agreement was ratified by eleven of the thirteen original colonies and became operative on March 4, 1789. In this document, and in the traditions which have arisen through interpretating it, are to be found the results of the political wisdom and experience of the American colonists, together with much of the political philosophy which was current at the end of the Eighteenth Century. Inasmuch as each of the forty-eight States is to a great degree self-governing, it is necessary, in making a study of the American Government, to examine their general qualities and interrelations in addition to those of the Federal Government.

The Constitution provides that there shall be three branches of the Federal Government. These are the executive, the legislative, and the judiciary. These three branches check and balance each other, thereby preventing the assumption of all power by any one of them and insuring



HIGHEST LEGISLATIVE BODY IN THE REPUBLIC—This is a glimpse of the United States Senate at the National Capital—This photograph of the empty chamber is the only picture that the officials of the Senate will allow.



LIBERTY BELL IN INDEPENDENCE HALL—Famous bell that rang out the joyful tiding of the Declaration of Independence in July, 1776—When the British approached Philadelphia the bell was taken down by the Patriots.



SIGNING OF DECLARATION OF INDEPENDENCE—Here we witness that epoch-making moment on July 4th, 1776, when a new nation was born—This document written by Jefferson, was signed in Independence Hall, in Philadelphia, by the delegates from the colonies, on August 2, 1776.



HISTORIC AMERICAN PAINTING BY TRUMBULL—Original painted for rotunda of National Capitol—The canvas portrays life-like portraits of 48 signers—The five men standing in front of table are Adams, Sherman, Livingstone, Jefferson, Franklin.



GALLANT ADVENTURES IN AMERICAN REVOLUTION—This old engraving shows General Marion, known as the "Swamp Fox," gathering recruits in the mountains of South Carolina—These rough troopers became the terrors of the British regulars.

the democratic form of the Government. Washington is the capital of the nation.

How the People Elect the President

The Executive Branch of the Government is headed by a president whose term of office is four years. There is no constitutional limitation to the number of terms which one man may enjoy. He must, according to the Constitution, be a native-born American, a resident of the country for at least fourteen years, and must be at least thirty-five years old. He receives a salary of \$75,000 and additional allowances.* The Presidency is an elective office; the candidates for it are nominated by the national conventions of their respective parties. On the same tickets are found the men who are candidates for the office of Vice-president, the legal successor of the President should he leave office before his term has expired.

These two officers are not directly elected by the voters of the country, for, according to the Constitution, in each State the voters choose a number of electors which shall be equal to the number of Senators plus the numbers of representatives to which that State is entitled in Congress. electors are not bound by law or the Constitution to vote for the candidates coming from their own parties, but tradition has brought into existence an iron rule which makes them do so. Therefore a party which secures a plurality of the votes in a State is entitled to the votes of all the electors for that State for President and Vice-President; and the party that wins in so many States as to insure control, through a majority, of the Electoral College, as the body of electors is called, is certain of having its nominees for the two offices elected. It may thus come about that a President is elected by a majority of the electors, though but a minority of the votes cast throughout the country were for the electors who in turn voted for him. Qualifications for voters are determined by the States and will be considered later.

Duties of the President of the United States

NEWLY elected President takes his oath of office, administered by the Chief Justice of the United States, and immediately, by the terms of the Constitution, becomes responsible for the enforcement of the provisions of the Constitution, the laws and treaties of the United States and the decisions pronounced by the Courts of the Federal Government. He has the power to appoint to administrative offices two groups of incumbents—those who hold important positions, such as heads of departments, bureaus and commissions, and those who hold inferior of-

^{*}In 1909 the total cost to the nation for the executive was \$329,420.

fices. The former appointments need the ratification of the Senate; the latter are in the hands of the President alone. He has the power to remove

men in either group without consent of the Senate.

The President is Commander-in-Chief of the army and navy, but the right to declare war is not in his hands. The conduct of the nation's foreign affairs is in his control; he appoints the representatives of the nation in foreign countries (with the consent of the Senate), he can make treaties (with the concurrence of two-thirds of the Senate), he receives the representatives of foreign powers, he may order the navy to foreign ports even at the risk of bringing on war, and he may move the army to foreign borders at the same risk. Except in cases of impeachment, he may grant reprieves and pardons to those who have been convicted by Federal (not State) courts, and, though this power enables him to reverse completely the action of a Federal court, its abuse is prevented by his voluntary reliance on the opinions of others in dealing with such cases.

The Constitution makes it mandatory for the President to inform Congress, from time to time, as to the state of the nation. Such messages, following a precedent set by Washington, were formally written papers read before the legislative body by a clerk, but President Wilson broke that precedent in delivering his first message by reading it to Congress in person. Congress is not bound to carry out any recommendations which his message contains, but it hears them with respect and, when the majorities of the legislators in both houses of Congress are of the same party as the President, it usually happens that his recommendations find their way to the statute-books. On the other hand, a bill passed by Congress does not reach the statute-books unless signed by the President, and by the power of veto he wields a great influence. But Congress by a two-thirds vote of both houses can make a bill law in spite of his veto. A bill coming to the President for his signature becomes law without his signature if he fails to return it to Congress within ten days after receiving it. are excepted in this count.

Certain privileges and rights belong to the President; no court can bring him before it for any offense, no crime he may commit can cause his arrest, and, even when impeached, no limitation may be placed upon his liberty until sentence has been pronounced upon him.

How the President Selects His Cabinet

OT all of the work connected with the executive branch of the Government can be attended to by the President alone, consequently it is necessary to maintain certain departments, bureaus, and commissions to carry it on. These departments in order of their im-

portance are those of State, Treasury, War, Justice, Post-Office, Navy, Interior, Agriculture, Commerce, and Labor. The heads of these departments connected with the executive branch form the President's Cabinet, and, though the Constitution makes no provisions for these, it assumes their existence. The Cabinet officers are appointees of the President and may be removed at his discretion. Their duties are laid down by enactments of Congress, and for these duties they are responsible to the President. They enjoy large appointive powers, subject to the operations of a Civil Service law; they may promulgate regulations, which must be consistent with law; and they decide with finality on cases appealed from the officials beneath them. On the other hand, they must prepare annual reports on their respective department for Congress. Their other relations with the legislative branch of the Government are less definite. They cannot be members of Congress, but there is no Constitutional provision preventing them from sitting and speaking there. They influence legislative action by conferring with Congressional committees and by appearing before them, and often draft in their entirety bills which become law.

The Cabinet as a collective body has no existence in legal enactment nor has it any powers ordained by law. Custom regulates it to a remarkable degree. Its meetings are stated and are ordered by the President. Usually they are secret, even to the extent of having no record of their transactions placed on record. The President, though he consults his Cabinet for advice and discusses with it matters of importance, is in no way bound to observe its recommendations, and not infrequently acts in direct opposition to them.

How Members of the House and Senators Are Elected

HE legislative branch of the Government is known as Congress and consists of a House of Representatives, coming from the various States in proportion to their respective populations, and a Senate consisting of two members from each of the States. The members of the House of Representatives must be men who have been citizens of the country for at least seven years; they must be at least twenty-five years old and must reside in the States which they represent. They may not hold other office under the Federal Government, and by provision of State laws cannot, except in rare instances, hold office under State governments. All but this last-named qualification are to be found in the Federal Constitution; in addition, either house may bar members on certain grounds.

Each member of the lower House represents a single Congressional district, which according to statute must be "contiguous and compact territory"; no district may have more than one representative.

Each Representative is elected for a term of two years and receives a salary of \$7,500. The electoral machinery by which a member becomes a nominee and an incumbent for the office of Representative is a matter controlled by the States, but their prescriptions may be altered by Congress. An act of Congress provides that they must be elected by ballot on the Tuesday following the first Monday in November, though a few States are exempted from this provision relating to the date. Both houses of Congress through committees judge of the elections and qualifications of their members and decide the issue where contested elections exist.

The Constitution specifically determines the number of Senators—two from each State, and no State is to be deprived of equal representation in the Senate without its own consent. The qualifications of Senators are a minimum age of thirty years, citizenship for nine years, and residence in

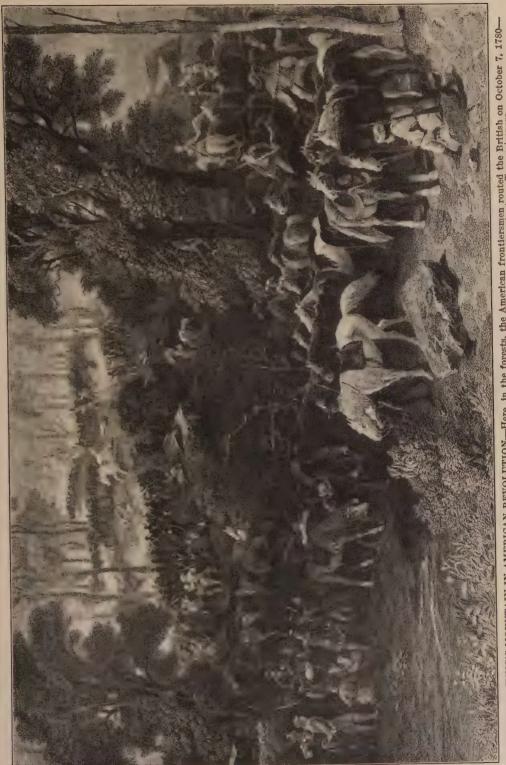
the States which they represent.

According to the Seventeenth Amendment to the Constitution, Senators are elected by the electorates in each State instead of by the State legislative bodies, as heretofore. Each Senator is elected for a term of six years, at a salary of \$7,500 a year; and the Constitution provides that one-third of the total number of Senators shall retire every two years.

The Constitution also provides for certain privileges to be enjoyed by members of Congress. The first of these is monetary allowance for secretaries and other assistants and for traveling expenses in addition to their salaries. They are free from arrest, during attendance at Washington, for all crimes except treason, felony, and breach of the peace. They may at no place be held responsible for utterance during debate in the Congressional chambers. Though the elections of its officers, the attendance of its members, and its methods of procedure are matters left in the hands of each house, the Constitution provides that the Vice-President shall be the presiding officer in the Senate, that each house must keep a journal, that a two-third vote is necessary to expel a member from either house, and that record of vote, under certain circumstances, must be taken by roll-call. A quorum in either house consists of a majority of its members.

How Congress Makes Our Laws

HE Constitution provides that Congress meet annually, the opening day being the first Monday in December. There are two annual sessions of each house. The President may call special sessions at his own discretion. The powers of Congress are only those which are named in the Constitution. It controls the matter of taxation raised to pay the debts of the Federal Government, for the defense of the country and for its welfare. Armies and navies may be raised and maintained



UATTLE OF KING'S MOUNTAIN IN AMERICAN REVOLUTION—Here, in the forests, the American frontiersmen routed the British on October 7, 1780— This defeat to Cornwallis resulted as disastrously as the defeat of Burgoyne near Bennington—Ten prisoners were lianged on a limb of a great tulip tree.



DEFENCE OF FORT MOULTRIE IN AMERICAN REVOLUTION—Here the South Carolinians repulsed the English fleet and turned back the Expedition of Sir Henry Clinton for the subjugation of the South—June 28, 1776.



SIEGE OF CHARLESTON IN AMERICAN REVOLUTION—This historic city in South Carolina heroically held off the British fleet in 1776—Forced to surrender to British, after a noble defence, in 1779, it was pillaged.

by it; it may declare war, regulate commerce, establish post-offices and post-roads, authorize standards of weights and measures, provide for patents and copyrights, and promulgate uniform laws on bankruptcy.

Over foreign affairs Congress has slight control. But in the matter of the country's monetary system its control is exclusive. It has limited power in defining crimes against Federal laws and providing punishment therefor: the crime of treason is defined unalterably by clauses in the Constitu-The rules and regulations for the government of the District of Columbia, in which Washington is located, and for the government of territories and property belonging to the United States is entirely in its hands; it has the right to admit new States into the Union and can make what arrangements it sees fit for the process of admission. Through its control of finances and the fixation of salaries and allowances it can to a certain extent wield an influence over the executive branch of the Government via the executive departments, bureaus and commissions; and in a similar manner it wields a control over the judiciary branch. Its power of removing Federal officers extends even to the right of impeaching the President—a right which it has exercised only once. When the President is impeached, the Chief Justice of the Supreme Court is the presiding officer, and the Senate acts as the high court. The Constitution provides that impeachment may be brought only in cases of treason, bribery, and high crimes and misdemeanors.

The manner in which Congress goes about its work is due to the fact that two great political parties seek the control of the Government. The party having a majority in either house controls the actions of that house, this action being determined by a caucus of the members of the party in a majority. The leading member of the party in majority becomes the presiding officer (Speaker) of the Representatives, and the leader of the minority becomes the floor leader of the party in opposition. The rules of the two houses differ.

The Speaker of the House of Representatives is clothed with wide powers in order that he may prevent "filibustering"—the delaying of action by the party in opposition. A Representative may speak no more than one hour in a given debate and he may not speak more than once during that debate. But there is no time limit on the speech-making of the Senators.

The greater part of the business in each house is attended to by committees. There are over fifty such in each house; the more important ones in the lower house are those of Appropriations, Commerce, Finance, Foreign Relations, Interstate Commerce, Judiciary, Military Affairs, Naval Affairs, Public Expenditures, and Rules. In the Senate the more important ones are those of Appropriations, Banking and Currency, Foreign Af-

fairs, Interstate and Foreign Commerce, Judiciary, Military Affairs, Naval Affairs, Rivers and Harbors, Rules, and Ways and Means. Important and unimportant bills are considered by these committees and it is at their meeting that the real legislative work of the nation is done. When a member introduces a bill—and this is the privilege of every member in either house—it is referred to the committee which would naturally be interested in it. This committee may pass favorably upon it, whereon it is voted on by the house in which it is introduced. The committee may alter it, or it may "kill it." In the last case it never comes up for debate by the house.

A bill favorably reported on by committee and passed by one house then goes to the other house for its approval. Here it again goes through the hands of the proper committee before being finally considered by the house itself. The bill may be altered by the second house or it may be rejected by it. Conferences between members of both houses—extracameral and extra-legal conferences—are held to overcome differences in such contingencies. If a bill is passed by both houses it then goes to the Secretary of State for official publication and then to the President for his signature. Receiving that, it becomes law.

How the Judiciary Branch of the Government Is Operated

HE Constitution provides that there shall be a Supreme Court and that Congress shall create such inferior courts as it sees fit. Congress has provided for the following arrangement of Federal Courts; the most important is the Supreme Court, consisting of a Chief Justice and eight Associate Justices, the former receiving a salary of \$13,000 and each of the latter \$12,500. They hold office for life and during good behavior. Their most important business is the consideration of cases involving constitutional law which come up on appeal from lower Federal courts or from State courts on writs of error. Each case must be tried with at least six of the Justices present, and a majority is needed for a decision.

The Federal Courts of next importance are the nine Circuit Courts of Appeal, one for each of the nine circuits into which the nation is divided. These courts consider questions appealed from lower Federal Courts in their respective circuits, unless the cases involve such weighty matters as capital punishment, or the Constitution, or treaties of the nation, and so on, in which instances appeal goes directly to the Supreme Court. Below the Circuit Courts of Appeal are the Circuit Courts having jurisdiction in matters involving breach of the Federal law, or cases between citizens of different States. The Federal District Court is the lowest United States Court. There are about ninety of these throughout the country and they vary in the matter of territory under their jurisdiction. Thus while there

is but one Federal District Court for Colorado, New York State has four. These courts consider questions appealed from lower Federal Courts in their punishment—and admiralty, maritime, and bankruptcy cases.

The Department of Justice, headed by the Attorney-General, who is a member of the Cabinet, is another part of the judiciary branch of the Government. Members of this Department act as the attorneys for the Government where it is involved in legal cases and also enforce regard for federal law through bringing cases of disregard before the proper Federal Courts. The Government is represented by an attorney, who is a member of the Department of Justice, in each of the Federal judicial districts. In each district there is also a Federal marshal who makes arrests. Both officers are appointees of the President.

The jurisdiction of the Federal Courts covers cases in which the United States takes part, cases involving one or more States as parties against other States or citizens without the jurisdiction of said States, cases involving questions concerning the Constitution, admiralty and maritime enterprise. The Federal Courts also have the power of issuing the writs of habeas corpus, mandamus, and injunction, wherever Federal law enters into a case. Where the constitutionality of either Federal and State laws is involved, the Federal Courts also have jurisdiction.

What the Government Guarantees the People

E have considered the machinery of the Federal Government; now we may observe its operations. The Constitution may be amended in four ways. Such a proposition may arise in Congress by action of two-thirds of both houses and may be ratified by the legislatures of three-fourths of the States. It may arise in the same manner and be ratified by conventions in three-fourths of the States. It may arise upon application of the legislatures in two-thirds of the States, whereupon Congress must call a national convention to draft it, after which it must receive the ratification of conventions in three-fourths of the States. Or, having had the same origin and having been drafted by a similar national convention it may be ratified by the legislatures in three-fourths of the States.

The rights guaranteed to the individual against the Federal Government are found in clauses in the Constitution which provide that the Federal Government may not establish a religion or interfere with freedom of worship. The Federal Government cannot interfere with freedom of speech or of the press, or the right to assemble peaceably and of petition to Government. As to the punishment of persons it is provided that treason should be such an act as is defined in the Constitution only, no bill

of attainder or ex-post facto law is valid, arrest by general warrant is prohibited, indictment by grand jury and trial by jury are guaranteed, the writ of habeas corpus cannot be suspended (except in case of rebellion or invasion), excessive bail is not to be levied, and in criminal proceedings due process of law must be regarded.

As to the property rights, the Constitution provides that the Federal Government may not define property; and, though the right of eminent domain is to be held by the Federal Government there are restrictions as to its actions against private property. These provide for uniformity of imposts throughout the country and against the taxation of goods exported

from any State.

It will be noted that all of these rights guaranteed to the individual are held against the Federal Government; the Constitution guarantees none against the State Governments. The rights of person against the latter are to be found in their respective constitutions and will be dealt with later.

How Our Foreign Affairs Are Conducted

ETWEEN the President and foreign countries the Department of State acts as the functionary organ. No official communication may go to a foreign State or be received from one without going through that department. The ambassadors, consuls, and other officials of the United States abroad are officers of the State Department. But the treaty-making power is in the hands of the President and the Senate; yet even here the State Department is the agency through which negotiations are carried on.

How We Maintain Our Army and Navy

TATIONAL defense is primarily the business of the Departments of War and of the Navy. The regular army is limited by law to 100,000 men; in each of the States there are regiments of organized militia-trained citizens-at the disposal of the Federal Government. In times of war it is customary to augment these forces by calling for volunteers. But by a law passed in 1908 every male American citizen between the age of eighteen and forty-five is a member of the Reserve Militia. The navy of the United States has been created by Congress under specific clauses to be found in the Constitution. Only citizens of the country may enlist in it. The conduct of war is a matter which varies with circumstances. The President, though he is Commander-in-Chief of both branches of the service, does not actually take the field; the management of campaigns is left to experts in the proper departments.



BATTLE OF STONY POINT IN AMERICAN REVOLUTION—It was here that General Anthony Wayne stormed the fort upon a rocky promontory overlooking the Hudson on July 15, 1779—The Americans had been forced to abandon it—It was now occupied by the British—Washington determined on its recapture—The attack was made about midnight across the marsh leading to the fort—The Americans did not fire but charged with bayonets—Wayne was wounded in the head and was carried into the fort—The British surrendered and the garrison of 540 men were taken prisoners,



BATTLE OF BENNINGTON IN AMERICAN REVOLTTION—Here, on August 16, 1777, a terrific battle ensued between the Americans and the Germans were routed and the result proved disastrous to General Burgoyne of the British Army, who soon after surrendered.

money necessary to conduct war is controlled by Congress. As the head of the country's militant forces, the President takes on a military character and under it may suspend the writ of habeas corpus (though only in times of war) and overrule the acts of officers or of courts-martial, and may appoint or remove even admirals and generals.

How We Finance the American Nation

ONGRESS, according to the Constitution, has control over the nation's finances. It may raise taxes, making them uniform throughout the country, causing direct taxation to be apportioned among the States according to their respective populations; it may not tax the exports from any State nor can it tax the instrumentalities or properties of any State. The sixteenth amendment to the Constitution gives Congress the right to levy an income-tax. All bills for raising revenue must originate in the House of Representatives as provided by the Constitution; but often the Senate, when it comes to consider these before they become law, makes radical changes in them. The Department of the Treasury is the agency which is entrusted with the collection of Federal revenue and does so through one branch which is responsible for customs duties and another which is responsible for internal revenue—taxes on liquor, cigars, playing-cards, and so on.

Congress has the right to issue both specie and paper money, to regulate the value of money and make loans. No State may coin money, tender payment of debt in anything but gold and silver currency of the United States, or authorize bills of credit. Congress has arranged a system of national banks for the sake of elasticity of the currency and has during the present administration provided for a Federal Reserve Bank. National banks, after meeting certain requirements laid down by law, may issue bank

notes, through the comptroller.

How We Control American Commerce and Trade

eign countries and that which passes between States. Through the latter power it controls railways and common carriers operating between States, corporations doing business in more than one State, and such matters as the purity of food, the purity of drugs, and the contents of publications which pass from one State to another. The matter of immigration also comes into its hands, as does the matter of tariffs. It may pass such laws as it sees fit, provided they do not transgress the Constitution, in regulating these. The business of handling these matters comes under the jurisdiction of the Departments of Commerce and Labor, these de-

partments being also responsible for the diffusing of information on subjects related to labor. They essay, also, to adjust the differences between parties involved in strikes that affect interstate and foreign commerce and trade.

How We Operate the Post-Office System

SPECIFIC clauses in the Constitution give Congress the right to establish post-offices and post-roads, and through the powers thus conferred it has built up our postal service. The business of this service is a matter in the hands of the Post-Office Department. In addition to handling mail such as letters and post-cards, it handles parcels, within certain physical limits, and issues money-orders for use both within the borders of the country and to foreign countries. A recent law has created postal savings banks.

How We Protect the American Territories

ERRITORY which is not part of a State and which is under the jurisdiction of the Federal Government is known as Federal Territory. It is treated as property of the United States and is governed under clauses in the Constitution which give Congress the right to dispose of such territory and property and to make the rule necessary for regulating it. At present all land actually on the Continent of North America, except the District of Columbia and Alaska, under the jurisdiction of the Federal Government is part of one State or another; but Alaska, the Hawaiian Islands, the Philippine Islands, Porto Rico, the Panama Canal Zone and certain insular possessions are Territories.

The Hawaiians have a governor and secretary appointed by the President and the Senate; all persons who were there citizens of the republic of Hawaii in 1898, before annexation to the United States, enjoy the citizenship of the latter; the Islands have a legislature consisting of two houses, the members of each being elected by popular vote, the voters being citizens of the United States, residents, and at least twenty-one years old.

The citizens of Porto Rico are citizens of that island only and do not possess the citizenship of the United States; it has an appointed governor, serving a term of four years, and six appointed executive officers, also appointed by the President and the Senate. These six, together with five citizens of good repute appointed by the President and the Senate, form the upper house of its legislative body; the lower house consists of thirty-five members who are native inhabitants of the island, elected by the popular vote of the adult males in the island who satisfy certain residence requirements.

The Philippine Islands are governed according to an Organic Act passed by Congress in 1902. The executive government is in the hands of a commission of nine men, including the governor. All of them—five Americans and four native Filipinos—are appointed by the President and the Senate. The Philippine Commission is the upper house of the legislative body, and voters in all but certain parts of the islands elect the members of the lower house, these voters being men who meet certain literacy tests, tests concerning payment of taxes or owning of property, and a taking an oath of allegiance to the United States.

Alaska is governed by an executive appointed by the President and the Senate. He enjoys a four-year term, sees that the laws of Congress are obeyed, commands the militia, and makes an annual report to the President. Congress has passed codes of civil and criminal procedure for use in Alaska.

The Panama Canal Zone has for an executive official the chairman of the Isthmian Canal Commission, an appointee of the President, who assigns his authority to one of the commissioners. The commission, by authority granted by the President, is the legislative organ for that territory; there are seven commissioners, appointees of the President.

The District of Columbia, in which the city of Washington is situated, has for an executive organ a board of three commissioners, two of whom are civilians and the third a military officer. All three are appointees of the President and govern the city with ordinances.

How We Operate Our State Governments

HE State Governments operate in spheres which are defined by the Constitution. Their taxing powers are limited; they cannot tax exports or imports, Federal property or instrumentalities; they cannot interfere with interstate commerce or exercise any control over the monetary system. No State may pass a bill of attainder or pass a law divesting itself of its obligation of contracts. No State may in any way curtail the privileges of a citizen of the United States or deprive them, without court trial, of the rights of life, liberty, and pursuit of happiness. All of these inhibitions are provided for by the Federal Constitution. In making a study of the State Governments, it is manifestly impossible to study each separately; all that can be done here is to indicate what are the common principles which are to be found in them.

The fundamental law in each State is its constitution, this document usually having six parts, the first being a bill of rights, the second being a framework of the State Government with its limitations set forth, the third dealing with State finances, the fourth providing for economic welfare,

the fifth dealing with educational and social welfare, the sixth dealing with

the methods for amending the State's Constitution.

The part dealing with the bill of rights usually provides that no citizen is to be interfered with in the matter of his religion, freedom of speech, of the press; trial by jury, indictment by grand jury and similar famous rights are guaranteed. The part dealing with the framework of the State's Government provides, in every instance, for an executive, a legislative, and

a judiciary branch of government.

Every one of the States has at the head of its executive branch a popularly elected governor, excepting Mississippi, whose governor is elected by an indirect method. The terms of these governors vary from one to four years, and the qualifications which they must have involve minimum age limitations, restrictions as to the number of terms one man may enjoy, and Their salaries range from \$2,500 to \$12,000. Usually they have a wide appointing power, commanding State militia, have extensive pardoning powers, and, in all instances, are responsible for the enforcement of the State laws. In every State except North Carolina the governor has the power of veto. Most of the States have as part of their administrative machinery a lieutenant-governor, who is the legal successor to the governor should the latter's term end prematurely; a secretary of state who has in charge the State's archives, keeps election records and supervises elections; a treasurer, who has charge of the State's moneys; an auditor, who has charge of the State's books, and an attorney-general, who acts as the State's counsel when it is a defendant and who prosecutes those who transgress the State's law. In addition, most of the States have an extensive list of minor officers of administration.

The legislative branch of the State Governments is in all cases a bicameral body, known sometimes as the legislative assembly, sometimes as the general assembly and sometimes by names of less general application. Members of both houses are chosen by popular vote; the members meet a variety of qualifications as to age, residence, and so on; their terms vary from State to State, as their salaries.

The business of the State legislatures is to promulgate the laws by which the State is governed, always with the understanding that no law it may pass is valid if it comes into conflict with a provision in either the State Constitution or the Federal Constitution. In organization and procedure they follow the general lines of the Federal legislature and are to a great extent copies of it.

The States' judicial systems are also broad imitations of that of the Federal Government, with supreme courts at the head of the systems and beneath them courts of appeal, circuit courts, district courts, and county



BATTLE AT PRINCETON IN AMERICAN REVOLUTION—Here Washington surprised the British on January 3, 1777, with a deadly bayonet charge—Frederick the Great, of Prussia declared it a brilliant military achievement.



BATTLE OF GERMANTOWN IN AMERICAN REVOLUTION—Here, in the confusion of a heavy fog at sunrise on October 4, 1777, the Americans met the British and were forced to retreat—Washington's plans were upset and war prolonged.



DECISIVE BATTLES IN AMERICAN REVOLUTION—Saratoga, where two important battles were fought on September 18, 1777, and October 7, 1777—
Americans were led to victory by Arnoid, an officer deprived of his command—Burgoyne was defeated and ten days later surrendered his army of 6,000 men.

courts. It is the State Court that the cases involving breaches of State law or State jurisdiction must go. There is a great variety in the way in which judges come to their positions, their terms, their salaries, and their removal. The two great sources of State law are the statutes enacted by the State legislatures and the English common law.

How We Manage Our Towns and Cities

OR purposes of local government, the States are divided into counties (parishes in Louisiana), and these in turn are divided into towns and townships. The chief officers in the counties are the sheriff, the prosecuting attorney for that county for the State, and the judges whose jurisdiction is limited to a county. Towns and townships are governed by boards of one kind or another.

Cities in the United States are without exception amenable to the law of the States in which they are found and enjoy a varying amount of liberty in dealing with their own problems. The most common form of municipal government is that in which the executive officer is a mayor. Lately, government of cities ruled by commissions has been coming into vogue. As further parts of the executive arm of municipal government there are boards of health, of education, finance, departments of police, fire, water, and so on.

What corresponds to the legislative branch of government in the Federal and State Governments is, in the cities, known as the board of aldermen or city council. Their promulgations are known as ordinances and may not conflict either with State or Federal law. They may raise revenue through issuing licenses or levies on property; they may provide for municipal enterprises of various kinds, and in so doing may contract loans and issue city bonds. The municipality is, in fact, a corporation.

Thus, in this brief survey, we have observed the operation of our form of government. It is a simple, straightforward business proposition in which our success or failure depends largely upon the character and ability of the men whom the people elect to public office—the servants of the people. These offices should be filled by men of integrity and capacity, using the same discrimination that is ordinarily used in appointing managers for any business enterprise—as the operation of government is the greatest of

The American Government has many problems to solve; it has met many crises and has stood the test; it will meet many new crises in our economic development and social progress. Let us all stand loyally, shoulder to shoulder, as equal shareholders in this great co-operative enterprise, laboring indefatigably for the success and prosperity of the nation.

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PART II

GREAT AMERICAN WARS

This hand, to tyrants ever sworn the foe, For freedom only deals the deadly blow; Then sheathes in calm repose the deadly blade, For gentle peace in freedom's hallowed shade.

— John Quincy Adams.

AR—that mad game the world so loves to play" is indeed a survival of the medieval dictum that "might makes right." When Reason is overthrown, men and nations abandon all social and economic principles and fall back to their biological instincts—the survival of the fittest by brute force and cunning. War, therefore, is the court of arbitrament when Reason breaks down. It is the constantly recurring animal instinct in social psychology; it is an economic eruption.

But, with all its hideous tortures and glories, war has been a purgative with which society has cleansed itself—by which it has purified itself with fire. Primitive though it be, it is the process through which civilization has forged its way and from which human freedom has been born. The chains of bondage have been struck from the human race largely by fire and sword. Mankind has attained liberty by rising in its physical might and taking it; he has had to break down tyranny by physical force. And, strange as the paradox may seem, the greatest despot that ever held the human race enslaved in its hideous clutches is this same overmastering system of war. It will be the last of the despots to be dethroned, but that time will come and is coming rapidly when war will be abolished as the last vestige of savagery, and then at last reason will rule.

The American people are not a warring people; they have progressed beyond the gluttony of war—but they do not fail to realize that, while war exists as a peril to mankind, it is the rule of reason that all nations should be prepared to defend themselves against it. As Washington said: "To be prepared for war is one of the most effectual ways of preserving peace." The time will come, as Hugo predicted, when a cannon will be a curiosity and arms will rust—when the world will wonder how such things ever could have been. But until this time nations must be ready to strike down the destroyer, while expending their efforts and genius to devise a new medium for arbitrament—while planning for the universal abolishment of war. The American people are a peace-loving people;

they are leading the world to-day in solving the greatest problem that besets the human race—emancipation from war. Mankind learns only by experience and experiment—war will cease only when man discovers

that its cost is greater than its gains.

American civilization, however, has not been born without the struggles and pains of war. It has passed through the crucible, under the flaming sword. Let it be said, however, with emphasis, that it has made its greatest progress through peace—by its inventive genius, which has revolutionized and reconstructed the modern world—despite war. (See

chapter on Great American Inventions.)

War's victories consist almost wholly of political liberties and territorial expansion—purchased at an incalculable cost of human lives and enormous economic losses. The first explorers fought their way across the American continent. The first wars were wars of conquest—the subjection of savagery to civilization in order to avoid a reversal of the situation; it was meeting primitive instincts with other primitive instincts. The Spanish adventurers waged war on barbarity with a cruelty that was barbarity itself. The clashes between the English colonists and the Indians were in self-defense from both viewpoints—each feared extermination by the other. The French and Indian wars were fought to decide the mastery of a continent.

The American Revolution—War For Independence

AR for American Independence—this is the first American war —that is a war of American nationality. The American Revolution was an economic explosion—a social evolution—the birth-throes of a gigantic idealism which gave conception to a new nation and a new era. Like an eruption of Mount Vesuvius, there was a social eruption on the Western Hemisphere in which was emitted the burning lava of democracy—later to coagulate into a solid substance that was to form the foundations of the American republic. This was the war for American Independence, the economic causes of which are set forth in the Declaration of Independence with words that have since inspired the whole world to the love of liberty. This war was not so much a revolt against despotic monarchy, however, as it was an outburst of the dynamic forces of democracy, which have found an outlet for expression on the American continent.

Let us survey the chief military facts associated with this war. Here we see an army composed largely of peace-loving farmers and mechanics, who, upon refusing to pay the taxes demanded by the British monarchy, were forced to defend themselves against invasion by the soldiers of the



FIRST BATTLE OF THE AMERICAN REVOLUTION—Here we see the patriots opposing the British as they marched from Lexington to Concord—Paul Revere carried the warning on his historic ride—The first battle was fought at Lexington, on April 19, 1775.



FIRST STEPS IN THE AMERICAN REVOLUTION—Here we see the colonists fortifying Breed's Hill on the night of June 16, 1775—The patriots worked incessantly all night—At daylight the British ships in the river opened fire. The cannonading aroused the sleepers in Boston and the Battle of Bunker Hill was fought.



WASHINGTON CROSSING THE DELAWARE—It is early morning December 25, 1776—The river is packed with floating ice—Washington stands in the bow, leading his army to surprise the British intrenched at Trenton—Behind him two soldiers hold an American flag.



FAMOUS PAINTING IN THE METROPOLITAN MUSEUM—This historic canvas which depicts one of the most heroic incidents in the American Revolution, was painted in 1851 by Emanuel Leutze (1816-1868)—It was presented to the Metropolitan by John S. Kennedy.



BATTLE OF COWPENS IN AMERICAN REVOLUTION—It was here that the Carolinian and Georgian sharpshooters met the British in a furious encounter on January 17, 1781—The British were completely routed and were pursued for twenty miles in a precipitate retreat, which soon led to disaster.

GREAT AMERICAN WARS

king. It was the culmination of a long series of anti-climaxes in which the monarchy, failing to comprehend the spirit of democracy, sought to maintain its integrity by discipline and force. The beginnings of the American armies were the Minute Men of New England. The troubles between the English military governor of Massachusetts and the people of that State were fast approaching a crisis, in the spring of 1775. A Committee of Safety (note the word and make your own economic deduction) at Cambridge ordered that a military force be formed; this force was to consist of 2,000 men, who at a minute's notice were to leave the occupations of peace and become soldiers. These men drilled to prepare themselves for an emergency, and munitions for their use were stored.

The British governor, hearing of these activities, decided to assert the power of the monarchy against insurrection and sent a force to Concord, Massachusetts, where the munitions were hidden. But he was anticipated by the people. On the night of April 18, 1775, the British troops began the twenty-mile march from Boston to Concord. The Minute Men were called to the defense of their property—and the two forces met in conflict at the little village of Lexington. Here the first battle of the American Revolution was fought—and won by the defenders. As soon as the news reached Vermont, the Green Mountain Boys attacked and captured Fort

Ticonderoga, May 10, 1775.

The first real American army was now to come into existence. The Continental Congress met in June, 1775, and designated the Boston forces as the Continental Army of America. George Washington was appointed to take supreme command. He received his commission on June 16th, and, while on the way to join the army, he learned that the Battle of Bunker Hill had been fought (June 17, 1775). Bunker Hill and Breed's Hill, two mounds which overlook Boston, near Charlestown, were of strategic importance, and the Americans knew that the British General Gage intended to fortify them. A force sent to occupy Bunker's Hill went by mistake to Breed's Hill and there threw up breastworks. The British soldiers made the attack. In the first charge the Britishers were driven back, for the Americans, waiting till "they could see the whites of the enemies' eyes," withheld their fire till the enemy was right on top of them. A second charge by the British was successful, and the Americans retired.

It was on July 3, 1775, that Washington arrived at Boston and took charge of the American forces. His troops were without discipline, they were without uniforms, without sufficient powder, and their guns were of every description—but they were aflame with an ideal. For eight months, Washington kept the British locked up in Boston with this force, and in

that time he organized a strong volunteer army under his inspiring leadership. In the meantime, to forestall an attack from Canada, Congress sent two forces there; one under Benedict Arnold, and another under Richard Montgomery. Though Quebec was entered and Montreal was captured, the American armies could not hold their positions and retired again to

American territory.

In the spring of 1776, Washington began active campaigning against the British force in Boston. On March 17, he took Dorchester Heights, south of Boston. The British General Howe, deeming it wiser to retreat from Boston than to give battle, evacuated the town and sailed with his army to Halifax. Washington, under the belief that New York would be the next point of British attack, moved to that city and encamped on Brooklyn Heights. General Howe, with 25,000 troops, came to Staten Island, where he established a camp. He attempted to take the American force at Brooklyn Heights in August, 1776, but Washington ingeniously retreated from there, crossed over to Manhattan, and with the English at his heels moved north to White Plains, where he finally crossed the Hudson to retreat to Newark, New Jersey.

Here we witness the first discord which threatened to disrupt the American cause. Washington had left General Charles Lee in New York with a small force of men; he now ordered Lee to join him at Hackensack, New Jersey. But Lee became a victim of his own jealousy and mutinously refused to join Washington, who was then forced to start a retreat with Philadelphia as its objective. The British General Cornwallis took advantage of the situation and followed him closely. Lee finally did cross the Hudson and was captured by the British, but his force escaped, and, under the command of General Sullivan, joined the commander-in-chief just in time for an attack against the Hessians, mercenaries of the British. in the battle of Trenton, on Christmas night, 1776, when 1,000 Hessians were made prisoners. On came Cornwallis, driving the Americans into a critical position between his own forces and the Delaware River. But on the night of January 2, 1777, Washington slipped around Cornwallis' army and routed three regiments by a rear attack. Cornwallis then retired to New Brunswick, and Washington to Morristown, New Jersey. Both armies encamped for the winter.

With the spring, activities were resumed. The British with a fleet made a feint as though they were to take Philadelphia. Washington, who had already made a march into New York from Morristown, found it urgent to change his plans and march south. A British force under Howe was landed on the shores of Chesapeake Bay. Washington moved on to Wilmington, Delaware. As the British began a move against

Washington, he fell back from Wilmington to Chadds Ford, on the Brandywine, and there, on September 11, 1777, Washington was defeated. Among those wounded in that fight was the Marquis de Lafayette, the French aristocrat who had volunteered for service with the American army. Washington retired to Philadelphia. Howe followed him thither, and, being out-marched, Washington abandoned the city of Philadelphia and moved to Valley Forge, after suffering a severe defeat at Germantown, Pennsylvania. Here he spent the winter; his troops were in pitiable condition, the shoes of his soldiers being so worn that their bleeding feet left blood-stains in the snow. Howe spent the winter in Philadelphia.

The two armies were now pitted around Philadelphia, fighting for possession of that city. There was brilliant strategy, however, in this plan that worked to the advantage of the Americans and won them the decisive victory. The defeats of the American army kept the British army divided. The British, having planned to cut the New England States off from the rest, decided to conquer the eastern part of New York State. General Burgoyne was to march down to Albany from Lake Champlain. There he was to meet a force under Colonel St. Leger, which would arrive after coming down Lake Ontario to Oswego and through the valley of the Mohawk to Albany. A third force under General Howe was to go up the Hudson from Manhattan. On July 5, 1776, Burgoyne took Ticonderoga and then went to Bennington to destroy American munitions, but there he encountered Colonel John Stark's force and was routed. Howe failed to come up the Hudson, and St. Leger met with defeat at Rome, New York. Burgoyne, having no support, tried to retreat. He reached Saratoga and there on October 17, 1777, was forced to surrender—thus the first decisive victory in the war was won by the Americans.

France now espoused the American cause and sent aid in the form of a fleet. Hearing of this, Sir Henry Clinton, successor to Howe, left Philadelphia and came to New York. General Washington followed, and in the fall of 1778 partly surrounded the British army in New York by stretching his forces in a cordon from Morristown, New Jersey, to West Point, New York. The British in New York now for some months were to rest on their arms. Their campaigns as a whole had not been decided successes. They now transferred their activities to the South, after making attempts, during 1779, to draw Washington away from New York. The British General Clinton, in the spring of 1780, captured Charleston, South Carolina. A new American army had been quickly raised and placed under General Gates, but it was defeated by Cornwallis at Camden, South Carolina, on August 16, 1780. It was a very severe defeat and came soon after another tragedy—the brilliant

but deluded Benedict Arnold, in command at West Point, intrigued in July, 1780, to deliver the fort to the British. The British agent in the conspiracy, Major André, was captured, and Arnold fled to the British lines,

later becoming a British officer.

Again a new American army was raised for operations in the South, and this time General Nathaniel Greene was given command. He all but destroyed the British forces in the South at Cowpens, South Carolina, on January 17, 1781. Cornwallis was now pitted against him. Though forced to much strategical retreating during the next few months, Greene had driven the British out of South Carolina by the fall of 1781. Cornwallis now started to fortify Yorktown, Virginia, where he was surrounded by the American forces on land (now under the command of Washington) and the French fleet on the sea. The decisive moment had come—only surrender was left to him, and he took that action on October 19, 1781. This marked the end of British hopes for success, and, though there was further fighting between scattered forces, a treaty of peace was signed in November, 1782. The American Revolution had been fought and won—the spirit of democracy had triumphed—a new nation was born.

It would not be just to close this brief survey of the American Revolution without a few words regarding the American naval forces and their brilliant victories. The American navy had come into existence on October 13, 1775, when Congress commissioned two sailing vessels; two months later it authorized the building of thirteen cruisers. While these were on the stays, merchant vessels to the number of eight were converted into warships; this fleet sailed to the Bahamas, where it made an attack and returned safely to New London, Connecticut. Meantime, privateers were "sniping" at British merchantmen and warships everywhere. On the coast of France, the Surprise and the Revenge were fitted out and sailed under the American flag, doing much damage to British shipping in 1777. John Paul Jones, with the Bonhomme Richard, harried the English coasts, entered the harbor of Whitehaven, destroyed munitions there, and fought the British Drake, which he captured (1778). On September 23, 1779, he met and fought the Serapis, which survived the fight. When his own ship went down, he sailed away in his prize. The British lost 102 vessels in the war; the 24 lost by the Americans amounted to almost their entire navy. By the articles of the final treaty of peace, which were signed in 1783, the English Government acknowledged the Independence of the United States, and the boundaries of the new republic were decided and agreed upon.



BATTLE OF THE THAMES IN WAR OF 1812—Gen. William H. Harrison vanquished the British, on October 5, 1813—Their Indian allies were routed, and fled into the swamps—Tecumseh, the Indian chief, was slain.



BATTLES AT PLATTSBURG IN WAR OF 1812—Here, on banks of Lake Champlain, the Americans met the British on their invasion from Canada—After terrific fighting the British on September 11, 1814, fled back to Canada.



FAMOUS NAVAL BATTLES IN AMERICAN HISTORY—This engraving memorializes the great battle between the Constitution and the Guerrière—It was fought on August 19, 1812, off the Bay of Fundy—The Guerrière was set on fire and blown up.



HEROIC DEEDS OF GALLANT AMERICANS—Captain Lawrence was fatally wounded in battle between the Chesapeake and Shannon, on June 1, 1813—Forced to surrender, his ship was taken as a prize into Halifax—His last words were: "Don't give up the ship."

War With France—Establishing American Integrity

7AR with France—this is the second war of the American people and the first after the founding of the nation. It was a series of short hostilities with France—a most unfortunate misunderstanding with America's loval friend in the American Revolution. After the Revolution the French became offended with America because of our recent treaty, Jay's Treaty, with England, which was signed in 1704. It brought an end to France's hopes that America might again engage in war against her enemy England, and it angered the French because of the advantages which it gave to England. Friction between America and France grew until the public here believed that our national honor was at stake. The expulsion of the American minister from France had much to do with bringing on this state of affairs. War came in 1798, and it was fought entirely on the sea. The Amercian warships Constellation, Boston and Enterprise met the French ships Insurgente, Vengeance, Berceau, and others, in individual encounters—and in each the Americans won. Minor fights proved as glorious for America and, when Napoleon became the head of the French Government, he, in 1800, brought the hostilities to an end. This war at least asserted to the world that the American nation was an independent power that proposed to maintain its integrity.

Second War With England—Establishing Freedom of the Seas

AR of 1812 against England—this is the third American war —only twenty-nine years after our first victory over the Mother-country. It is known as the second war with England or the War of 1812. The trouble arose over the freedom of American commerce. England and France were engaged in the Napoleonic War. In seeking to destroy each other's commerce, they flagrantly disregarded American rights on the sea from 1806 onward. The actions of the English in this respect were very defiant to the American people. It was generally believed that they were seeking revenge because they had not forgotten the English rule in America previous to 1776. In the proclamation of war, issued June 18, 1812, President Madison named four causes for declaring it: the inciting of Indians to attack on the American frontiers, the interference with American commerce in European waters, the stationing of cruisers off American ports to search American vessels, and the impressment of American seamen.

Three American armies immediately started to invade Canada under Generals Hull, Van Rensselaer and Dearborn. But all three were de-

feated, Hull surrendering. Oliver Hazard Perry, with a fleet hastily equipped on the Great Lakes, captured the whole of the British lake fleet at the Battle of Lake Erie, in September, 1812. His victory was complete and his report of it was given in the cryptic message: "We have

met the enemy and they are ours."

Another attempt at invading Canada was made in 1813. The town of York was taken and burned, but the American forces did not have confidence to go on and returned to New York. A third attempt was made in 1814, and Generals Winfield Scott and Jacob Brown won the battles of Chippewa and Lundys Lane, only to be driven out of Canada later. The British now planned to invade New York with the same plan on which Burgoyne had started out in 1776. But their land forces were defeated at Plattsburg by General Macomb, and their fleet was destroyed in Platts-

burg Bay by McDonough.

On the high seas the Americans were writing glorious history. When the war started, there were sixteen ships in the American navy to 1,200 in the British service. The American frigate Constitution started with a victory over the Guerrière and many other British ships. The United States defeated the Macedonian, and the Wasp captured the British ship Frolic, but on the same day was taken by the Poictiers. In 1813, the Constitution added to her fame by taking the Java; the English ship Peacock fell a victim to the Hornet, and the Boxer was captured by the American ship Enterprise. The Pelican of the English navy defeated the Argus after the latter had destroyed 27 ships in English waters. The American ship Chesapeake, under Captain Lawrence, was challenged by the Shannon in Boston Harbor and was defeated. Lawrence, before meeting his death, uttered the famous command: "Don't give up the ship." By 1814 the British ceased to consider the heroic little American navy as a weak adversary, and, realizing the humiliating position in which the empire was being placed, sent over here all available ships and blockaded the American ports. A large fleet came up from Bermuda, and, entering Chesapeake Bay, sailed up and landed troops in Maryland. Marching on to Washington, the British burned public buildings in revenge for the burning of York. Meanwhile, an extremely large expedition set out from Jamaica in November, 1814, to take New Orleans. Madison ordered Andrew Jackson to defend the Southern city. With a loss of only 71 men, he saved New Orleans and inflicted the loss of 2,036 English troops in battle on January 8, 1815. The British made no further attacks against him. Peace negotiations had been opened and a treaty was signed at Ghent, calling for cessation of hostilities and arranging permanent agreement for peace, a month before the attack was made

on New Orleans. But, owing to the fact that news could at that time cross the Atlantic only on sailing vessels, this message arrived in America too late to prevent the battle.

The treaty which resulted from the war embodied no mention whatsoever of the causes of the war. As far as the document itself went, it did little more than end the fighting; but the war had brought the attention of the world to the fact that America stood ready to defend its rights at all times. It was an excellent warning to the Old World powers and a warning which they heeded till the end of the century.

War With Mexico-Maintaining American Principles

7AR with Mexico—this is the fourth American war. The causes of this war lay in the troubles that had been engendered by the admission of Texas into the Union in 1845. When the Republic of Texas declared its independence of Mexico, in 1837, its boundaries were set to the westward along the Rio Grande, from one end of it to the other, and along a line running north from its source to the 42nd parallel. Mexico claimed that the western boundary ran along the Nueces River. The land between the Nueces River and the Rio Grande was in dispute up to 1846. At that time the Federal Government decided to stand by the claims of Texas and sent troops into the disputed territory. General Zachary Taylor was placed in command. He was attacked by the Mexicans on April 25, 1846. When the news reached the President, he decided to declare war. A proclamation was issued on May 12, 1846. Congress voted money and supplies for an army of 50,000 volunteers. Taylor met the Mexicans at Palo Alto and defeated them. He defeated them again at Resaca de la Palma and then took Matamoras. Here he remained to wait for supplies and reinforcements before marching on to Monterey. The Mexican General Ampudia surrendered that city on September 24, 1846, after a hard battle. General Taylor moved on to Saltillo.

With the increase in the number of American troops, General Winfield Scott was placed in supreme command of all the American forces and was despatched to Mexico. He reached the theater of war in January, 1847. He met Santa Anna at Vera Cruz, whence the latter had gone after having been defeated by Taylor at Buena Vista on February 23, 1847. Scott took Vera Cruz in March and then started on his conquest of Mexico City. He fought battles in quick succession—Cerro Gordo, April 18; Jalapa, April 19; Perote, April 22; Puebla, May 15. He reached his goal on August 10, 1847, and captured it on the 14th of September, 1847. General Scott had been victorious in every engagement,

but the loss of men through the climatic conditions, disease, and battle, was enormous.

While these operations to the southward were going on, the Government despatched Colonel Stephen Kearny to New Mexico in the summer of 1846. After taking that territory in the name of the government he marched west to take California, but on his arrival there found that it had been taken by Frémont. Hearing rumors of the war with Mexico, the American settlers in California had revolted and set up a republic of their own, receiving material aid from Frémont, who happened to be in the mountains with a force, and from Commodore Stockton, who was then in Californian waters with his fleet. These forces held the country until Kearny arrived.

The Mexicans, defeated everywhere, were not loath to sign the treaty of peace which was promulgated at Guadalupe Hidalgo in February, 1848. By its terms Mexico ceded the land which now comprises California, Nevada, part of Utah, New Mexico, and part of the present State of Arizona—upon a payment of \$15,000,000. Claims held by American citizens against Mexico, amounting to more than \$3,000,000, were to be paid by the United States. The newly acquired territory contained 522,568 square miles.

. American Civil War—Decision of a Constitutional Problem

MERICAN Civil War—this is the fifth great American war. Here we find the country divided against itself on a great economic issue. The issue which brought on the Civil War, and which was fought out by that war, was a constitutional question—the right of a State or States to secede from the Union, arising over the question of the extension of slavery, not the abolition of slavery.

When Abraham Lincoln was elected to the Presidency, in 1860, the Southerners realized that to rely on the ballot for the maintenance of their stand on the question was hopeless. They were out-voted; they saw that their voice would be a minor voice in the new Congress; they feared that this Congress and the President would not properly represent them and guarantee what they believed to be their rights. They decided to sever all connections with the Federal Government and set up their own Confederacy.

A convention of delegates was called by the legislature of South Carolina a few days after Lincoln was elected. It formally renounced its connection with the Union, claiming to be a "sovereign, free and independent" State. This action was quickly followed by Alabama, Florida, Georgia, Mississippi, Louisiana, and Texas. Six of these States entered a



BATTLE OF CHIPPEWA IN WAR OF 1812—It was here, near Niagara Falls, on the Canadian border, that the Americans under terrific fire attacked and repulsed the British and Indian allies on July 11th, 1814.



BATTLE AT LUNDY'S LANE IN WAR OF 1812—Here, near the great cataract of Niagara Falls, a terrific battle between the Americans and British took place on July 25, 1814—It was the most brilliant exploit of the war.



BATTLE OF NEW ORLEANS IN WAR OF 1812—Andrew Jackson with 6,000 Americans met 12,000 British under Sir Edward Pakenham on January 8, 1815—After twenty-five minutes of terrific fire the British crack regiments field, leaving behind 2,600 killed and wounded—Jackson became a popular hero.

confederation on February 4, 1861, and set up the government of the Confederate States of America. Jefferson Davis was elected Provisional President and a constitution was formed.

President Lincoln, in his interpretation of the American Constitution, refused to consider the Union dissolved. He declared he would carry out its laws with force as a final means. Fort Sumter, in South Carolina, was a Federal military station defended by a force of Union soldiers. On April 12, 1861, the Confederates fired on it and forced it to fall—the first shots in the most terrible fratricidal war in the world's history. The South had a population united in opinion as to the righteousness of its course. It had, also, the sympathy of all the great powers in Europe

with the single exception of Russia.

President Lincoln immediately called for 75,000 militia for three months' services. Arkansas, North Carolina, Tennessee, and Virginia were forced to declare their position—all of them pledging themselves to the Confederacy. The Confederate capital was established at Richmond, Virginia. The mountaineers in the western part of Virginia formed the new State of West Virginia and cast their lot with the Union. Acting on the ground that the Union was still intact, Lincoln indicated that his volunteers were to come from every State in the Union, but no response came from those which had seceded, and the 75,000 men came from the North. By the summer of 1861, there were 183,588 men in the Union uniform, 42,000 having been enlisted for three years' service. The South raised a formidable army, and the two forces lined up for battle. The dividing line was in three parts; the first ran from Fortress Monroe, Virginia, up Chesapeake Bay to the Potomac River and westward to the mountains; the second part ran from there through West Virginia, and across Kentucky-which assumed neutrality-to the Mississippi River; the third part ran from there across the Indian Territory and New Mexico.

The first battle occurred at Bull Run, in Virginia, thirty miles southwest of Washington, on July 21, 1861. It was a victory for the South. General Winfield Scott was chief in command of the Union forces. Under him was General McDowell, commanding the forces near Washington. Further to the west, General Patterson was in command, while General George B. McClellan held the lines across West Virginia and the western part of old Virginia. General Lyon held command of the Union troops in Missouri. On the Southern side, General Beauregard opposed General McDowell at Bull Run, and other able strategists were espousing the Southern cause. In the eastern theater there was to be no fighting for some time after the battle of Bull Run, for McClellan gave his time

to drilling his troops.

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In the western theater of war, General Buell sent General Thomas against the Confederates at Mill Springs in January, 1862, in an effort to break the Confederate line. And, in the next month, General Grant and Flag Officer Foote of the naval forces were commanded by their superior, General Halleck, to attack Fort Henry on the Tennessee River. Foote, having accomplished this alone, Grant took his own force to attack Fort Donelson on the Cumberland River and defeated General Buckner, who surrendered to him on February 16, 1862.

The Confederates now fell back toward Corinth, Mississippi, and were followed by three armies under General Halleck. The army under General S. R. Curtis defeated the Confederates in Missouri; the army under General John Pope cooperated with a force under Foote, took Island No. 10 and then rejoined Halleck as he moved against Corinth. A Union fleet went down the Mississippi and after causing the fall of Fort Pillow, sailed on down to Memphis, which was captured on June 6, 1862. Grant had meanwhile been following the Confederates and, upon reaching Pittsburg Landing, was given battle and defeated by General A. S. Johnston. On the next day, April 7, 1862, he fought Johnston again and won the battle of Shiloh. Johnston moved on to Corinth and left it on occupation by Halleck at the end of May. The Unionist commander was then called to Washington to take command of all the Federal forces.

The Unionist line in the west now ran from Memphis and Corinth to Chattanooga. Starting from the last named place, the Confederate General Bragg moved toward Louisville, Kentucky, but a counter move by General Buell thwarted him. Buell had drawn on Grant for troops for this move. Knowing this, the Confederate Generals Price and Van Dorn moved from Iuka and Holly Springs, respectively, for Corinth, but Grant despatched his subordinate, Rosecrans, to meet the former, which he did with success. Bragg now prepared to winter at Murfreesboro, Tennessee, and was attacked there by Rosecrans, who now had command of Buell's army. A three days' battle fought there, beginning December, 1862, ended in the defeat of Bragg. Farther west, General Curtis drove the Confederates south of the Arkansas River and west of the Mississippi during the year 1862, and at the end of that year only Vicksburg, Grand Gulf, and Port Hudson were left to the Confederate forces in that theater of war. General Butler, cooperating with naval forces under Farragut, in the spring of 1862, set out to capture New Orleans. Farragut bombarded its defending forts, destroyed the Confederate fleet, and, by April 25, 1862, had taken the city. General Butler marched into it and held it till the end of the war.

The year 1862 had not given the Unionist forces much hope in the

eastern theater of fighting. The Northern populace was demanding that the army take Richmond. McClellan aroused disfavor because he failed in the attempt and did not agree with the Administration's plan for the move. The fighting here was to take place on the peninsula formed by Chesapeake Bay and the James River, which gave these operations the name of the Peninsula Campaign. It was finally settled that McClellan was to go from Washington to Fortress Monroe by water, and then march up the peninsula to Richmond, where he was to be joined by McDowell. McDowell was to arrive there by marching from Fredericksburg. To prevent an attack by the Confederates upon Washington from the west, Generals Frémont and Banks were to operate in the Shenandoah Valley. The fear of attack on Washington hampered Unionist operations throughout the war. It was a favorite move of the Confederate generals to threaten the capital whenever they wished to draw Unionist forces from Virginia.

General Joseph E. Johnston gave McClellan battle when the latter landed at the southern end of the Peninsula, while General T. J. Jackson ("Stonewall" Jackson) prevented McDowell from joining McClellan by raiding the Shenandoah, driving the force of General Banks into Maryland, and escaping southward before he could be apprehended by Frémont or McDowell. Jackson won four hard battles in a little over a month and so alarmed the authorities at Washington that they ordered the force of McDowell to be held in northern Virginia. McClellan was left to his own resources and support; he went up to within eight miles of Richmond, by following the Chickahominy River, and defeated Johnston at the battle of Fair Oaks on May 31, 1862. That commander was now replaced by General Robert E. Lee, who, in cooperation with Jackson, gave battle to McClellan at Mechanicsville and Gains Mill and forced him, on July 1, 1862, to retreat to Harrison's Landing; he remained there until August and then was ordered to take up a position on the Potomac River.

It was at this time that Halleck arrived from the West to take command of the Union forces. A new Unionist army, under General Pope, covered a line running along the Rappahannock and Rapidan Rivers to the Shenandoah Valley; this was attacked by Lee, who defeated General Banks on the Rapidan, moved against Pope at the second battle of Bull Run, and sent the Unionist forces back to Washington, there to be joined by those of McClellan. Crossing into Maryland, Lee was defeated by McClellan at the battle of Antietam, September 17, 1862, and returned to Virginia. McClellan was removed in favor of General Burnside, who moved against the fortifications at Fredericksburg Heights, December 13, 1862, and went into winter quarters after a bloody defeat there.

Lincoln now issued the Emancipation Proclamation, on September 22, 1862, declaring free all slaves in territory at war with the Union, thus placating the discontented Northerners by making the war turn on the slavery question and giving it a moral sanction, and also thwarting the plans of European governments, which were about to recognize Southern sovereignty. He knew that the common people in Europe would not support action by their governments which showed any sympathy with the institution of slavery. The proclamation was, therefore, strictly a measure of war.

The spring of 1863 was to see renewed activity by the armies on both sides. Burnside was succeeded by "Fighting Joe" Hooker, who led his force against Lee and met defeat at Chancellorsville on May 4, 1863. Lee now decided to take the offensive and went into Pennsylvania by way of the Shenandoah and a crossing of the Potomac. A small detachment of Confederate soldiers, having gone into the little town of Gettysburg, Pennsylvania, for shoes, accidently met and fought with an equally small detachment of Federal troops. The commanders of the larger armies—for General Meade, a successor of Hooker, had followed Lee—hearing the firing, sent small reinforcements to these small detachments. More and more reinforcements were sent by each side, so that the accidental meeting of the original detachments on July 1, 1863, developed into a three days' battle—the greatest battle ever fought on American soil. Lee was defeated and on July 4, 1863, with his army, was again on his way south. The first attempt at raiding Northern States had ended in failure.

Independence Day, 1863, brought more news to Washington, for on that day Vicksburg had surrendered to Grant after seven weeks of siege. When Fort Hudson surrendered on July 9, 1863, the Mississippi River was open to Federal use from one end to another, and the Confederacy was cut in half.

The business of the Unionist armies in the West was now to force the Confederates eastward. Rosecrans, while Grant was operating against Vicksburg, advanced against Bragg, defeating him south of Murfreesboro and compelling him to retreat into northern Georgia; Rosecrans defeated Bragg again at Chickamauga, September 19 and 20, 1863—mainly through the splendid generalship of his subordinate, George H. Thomas—and then retired to Chattanooga. Rosecrans was here succeeded by Thomas, and the army was saved from starvation by the arrival of an army coming from Virginia in command of General Hooker. Bragg had followed Rosecrans' army to Chattanooga, but was now to be defeated by Thomas in the battle of Lookout Mountain, or the Battle in the



CAPTURE OF FORT GEORGE IN WAR OF 1812—Desperate charge against the fort on Niagara River—It was captured by the American troops under General Dearborn after a daring attack on May 27, 1813—Its defenders were taken prisoners.



MASSACRE OF FORT MIMMS IN WAR OF 1812—This massacre of the whites by Creek Indians took place at the Stockade in Alabama on August 30, 1813—Over 500 men, women and children were killed by Indians under Weathersford, a half-breed.



GREAT AMERICAN WARRIORS—Gallant figure of General Winfield Scott—He fought with the Americans in five wars: War of 1812; Black Hawk War in 1832; Seminole War in 1836; War with Mexico in 1846; Civil War in 1861—He was the conqueror of Mexico and was a candidate for President.

Clouds, November 25, 1863. Bragg retreated into northern Georgia and was succeeded in command by General Joseph E. Johnston.

There were now left but two points of resistance in the hands of the Confederates—Dalton, Georgia, where Johnston rested with his army; and the Rapidan and Rappahannock Rivers, where Lee was wintering with the army of Virginia. With the passing of the winter, Grant, who now held the rank of Lieutenant General, a rank held previously only by Washington and Winfield Scott, put into operation a scheme for destroying both the remaining Confederate armies. He had left General Sherman in command of the armies of the West and ordered him to commence a drive into Georgia on the 4th day of May, 1864; he himself

was on that day to start a campaign against Lee in Virginia.

Sherman started on the appointed day and, with 98,000 men, moved against the Confederate commander, Johnston, at Dalton, Georgia. But Johnston was a master of the strategy of retreat and succeeded in escaping to Atlanta. Here Johnston was succeeded by General J. B. Hood, who, after giving battle to Sherman three times during July, 1864, left Atlanta and started northwestward. But Sherman was wise enough not to pursue him with his whole force and sent General Thomas against him. Thomas drove Hood into Tennessee and then rejoined Sherman at Atlanta. In November, 1864, with 60,000 troops, Sherman began his famous march from Atlanta to the sea, leaving behind him a belt of devastation sixty miles wide, tearing up all railroads, destroying bridges, despoiling farms and all property which might be useful to a pursuing army. He "presented Savannah as a Christmas gift" to Lincoln at the end of 1864. Resting there for a month, he marched north, and, by March 1, 1865, had reached Goldsboro, North Carolina, routing an army under Hood on the way.

Grant had kept his part of the agreement by marching into "the Wilderness," the wooded country south of the Rapidan, and after terrific battles reached Cold Harbor, an outer-defense of Richmond, and then took up his position for the siege of Petersburg from the south. He had been engaged in a "hammering campaign," which he determined to carry through to victory without regard to the great loss of men which it neces-

sitated.

Lee, with brilliant strategy, in order to draw Grant's forces away, ordered a raid made up the Shenandoah, threatening Washington, and chose General Jubal Early to make it. He arrived before the capital's fortifications and then returned to Virginia. When he attempted further raids, Grant sent General Sheridan into the Shenandoah to stop them, and

this Sheridan accomplished by defeating the Confederates at the battle of

Winchester, on October 19, 1864.

The Confederate forces were now so near annihilation that *pourparlers* for peace were initiated. The Confederate Vice-President, Alexander H. Stephens, met Lincoln on a vessel in Hampton Roads, but the terms proposed by Lincoln were not acceptable, and the fighting continued. In the spring of 1865, Lee saw that Richmond could not hold out. Accordingly, he evacuated the Confederate capital on April 3rd. He was pursued by Grant and surrendered at Appomattox Court House, Virginia, on April 9, 1865. On April 26th, Johnston surrendered to Sherman near Raleigh, North Carolina.

The war was not decided, however, merely by the operations of the opposing armies. The Federal navy had been largely instrumental in securing the Confederate defeat. There were forty steam-propelled and fifty sailing vessels listed as warships of the United States when the war began. These were well scattered throughout the seven seas at the opening of hostilities, and many were out of commission, but a force was made available to blockade all the Confederate coasts. The remaining business of the navy was to capture what seaports it could, to command estuaries of every kind—river mouths, bays, etc.,—to open the Mississippi with the aid of the army and to destroy all ships flying the Confederate flag.

The blockade was declared on April 19, 1861, and was successful from the start. This had great strategic influence, for the South had no ships to bring to it munitions of war, which it could not produce because of the lack of mills and factories characteristic of agricultural regions. In addition, the South could be impoverished by stopping shipment of its great cotton crop to the customary buyers in Europe. The embarrassing feature about the blockade was that it caused hardship in England, where thousands starved when the cotton-mills could no longer obtain raw cotton. This induced the British Government to seek relief by aiding the South in breaking down the blockade and bringing a quick ending to the war.

Blockade-running, of course, became profitable. The South tried retaliation by sending out commerce destroyers to prey on Unionist merchantmen, and was aided in these operations by England. The cruisers Florida, Alabama, and Shenandoah were built in British seaports, fitted out there, and sailed to attack American ships—a breach of neutrality on the part of England which was settled long after the war by her payment of an indemnity. The cruiser Wachusett captured the Florida in the harbor of Bahia, Brazil; and the Alabama was defeated by the Kear-

sarge off the coast of France, near Cherbourg, June 19, 1864, in one of the most famous battles in marine history. The Shenandoah went uncaptured during the entire war and with the end of the Confederacy returned

to England.

In the defense of their rivers the Confederates devised a new type of fighting ship. Cutting down the hulls of several sailing vessels, they covered what remained of them with sheet iron or railway ties, thus making them almost invulnerable against the cannon of the day. These ironclads, as they were called, could ram and sink the enemies' ships with ease, and the Southerners used them for that purpose with great success. This was the beginning of the ironclad. The most famous of them was the Merrimac. To stop her depredations, the Federalists sent to Hampton Roads the craft named the Monitor. This ship was built mostly under water; it had an iron deck like a raft and mounted a revolving turret carrying two guns. It was said to be like "a cheese-box on a raft." These two odd boats met in combat in Hampton Roads on the morning of April 9, 1862, and fought a drawn battle. It had a great result, nevertheless, for by the next morning every wooden fighting ship throughout the world was obsolete—the ironclad age had dawned.

The surrender of Lee and of Johnston brought about the fall of the Confederacy. No treaty brought the war to an end, for the Federal victory had established as law the assertion of Lincoln that the Union still existed. It had been finally settled that no State could lawfully secede from the Union. In money the war had cost heavily. The national debt stood at \$90,000,000 in 1861 before the firing on Sumter; it stood at \$1,109,000,000, plus the \$90,000,000, by August 31, 1865. The States and municipalities had contracted debts to the amount of \$468,000,-000 through the war. Six billion dollars more were to be laid out by the Federal Government from the time that Lee surrendered to 1879. The cost in money to the South was incalculable; most of the fighting had taken place on Southern soil, and the damage resulting to property cannot even be estimated. The loss from the emancipation of slaves came to at least \$2,000,000,000. The cost of the American Civil War has been estimated at \$10,000,000,000 in money—a total of \$30,000,000,ooo with all the economic losses.

But the loss in men was even more serious, and more to be regretted because both sides were of the same nationality. The highest number of men in the Unionist uniform at any one time was 1,000,516, and the total enlistment for the four years for the North came to more than 2,000,000. The Federals lost a total of 67,000 men killed in battle, 43,000 who died of wounds, 230,000 who died of disease, exposure, and other causes.

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The number in the Confederate army has never been accurately estimated, but is probably nearly 1,000,000 men. The losses probably were as large as on the Northern side. Thus the war brought death to 700,000 American men. It settled forever, however, a great world problem and united the American people into an indissoluble Union—now and forever.

War With Spain-"America for Humanity"

TAR with Spain—this is the fifth great American war—the discoverer of the Western World. Throughout the Nineteenth Century the islanders in Cuba were agitating for independence from Spain, following the successful attempts made by Mexico and the countries in South America. A sixth attempt was started in 1895, and such severity was resorted to by Spain to suppress the spirit of freedom that it stirred up the feelings of the American people. Money and food were sent to the Cubans, and attempts were made to induce Congress to recognize their belligerent rights. Hatred for the repressive measures of Spain grew intense in the United States. It was brought to a climax when the battleship Maine, while lying in Havana Harbor, was blown up on February 15, 1808. It has never been determined whether this was done by Spaniards or by Cuban patriots who wished to precipitate action on the part of the United States. But public opinion demanded that the United States restore peace in Cuba. This could be done only by driving Spain from the island. War was declared on April 21, 1808, and \$50,000,000 was voted by Congress to carry it through. Volunteers were called for, and 200,000 men enlisted.

Commodore George Dewey, who was at Hongkong with an American fleet, was ordered to proceed to the Philippine Islands-Spanish possessions. The fleet under Rear-Admiral Sampson was sent to Cuban waters. Dewey destroyed a Spanish fleet in Manila harbor and then blockaded the city, May 1, 1898. Sampson found the Atlantic fleet of the Spaniards in the harbor of Santiago de Cuba, and, after keeping it bottled up there, fought it on its attempt to get away to sea. He destroyed the fleet and took its admiral, Cervera, prisoner, on July 3, 1898. Cervera had attempted to flee when the city of Santiago was about to fall into the hands of the American land forces operating in the island. General Shafter, with 18,000 men, after fighting the battles of El Caney and San Juan Hill, July 1-3, was ready to take the city itself. It was occupied by American troops on July 14, 1898. General Miles was then sent with a force to capture Porto Rico, which he did with little trouble. Spain was now willing to consider peace negotiations, and a protocol was signed on August 12, 1898, but, before word of the cessation of hos-



BATTLE OF VERA CRUZ IN WAR WITH MEXICO—This War was the first in history, lasting two years, in which no defeat was sustained by one party and no victory won by the other—Vera Cruz was captured, March 27, 1847.



BATTLE OF CERRO GORDO IN WAR WITH MEXICO—Gen. Scott on his march from Vera Cruz to City of Mexico stormed the fortress, bristling with batteries 1,000 feet above the river and routed Santa Anna on April 17, 1847.



BATTLE OF NEW ORLEANS IN AMERICAN CIVIL WAR—This painting shows Admiral Farragut on the Flagship "Hartford," running the fire of the Confederate forts at daybreak, with ship in flames—This victory prevented Napoleon from recognizing the Confederacy.



HEROIC MOMENTS IN GREAT AMERICAN WARS-Famous Civil War Painting by Overend, immortalizing in American Art the heroic adventure of Admiral Farragut in the naval fight between the Federal and Confederate fleets on the Mississippi River in 1862.



BATTLS OF BUENA VISTA IN MEXICAN WAR—Here Gen. Zachary Taylor, after fearful slaughter, routed the Mexicans on November 23, 1846—Santa Anna fell back and his utterly dispirited army was almost dissolved.



BATTLE OF MOLINO DEL REY IN WAR WITH MEXICO—Here the Americans under General Scott fought a desperate battle on September 8th, 1847, on the march to Mexico City—Six days later victorious army entered the capital.

tilities could reach the Far East, the American land forces under General Merritt and the fleet under Dewey closed in on Manila and took

that city.

The final treaty of peace was signed at Paris, December 10, 1898. By its terms Spain gave up claim to Cuba, Porto Rico, Guam (an island in the Pacific), and the Philippines. For public works in the latter she received \$20,000,000. Cuba was later to be set up as an independent republic, but the other territories were to become part of the American domain. Some years were spent in suppressing native insurrections in the Philippines, but peace was finally restored, and the islands entered on a new era of civilization and prosperity. It was the Spanish War, moreover, that broke the chains of provincialism in America and brought the United States before all the nations as a world power.

America, therefore, has not been a warless nation. It has been forced to fight its way up from the wilderness; it purchased its freedom with blood; it established its integrity with blood; it secured its freedom on the seas with blood; it expanded its dominion of freedom with blood; it emancipated its slaves and established national unity with blood; it took its stand for humanity and stepped out as a world power with blood. But it may be said that the Americans have never instigated a war; they have never fought a war for self-aggrandizement; they have never lost a war. Every American war has been for the furtherance of civilization and the

betterment of humanity.



PART III CHAPTER V

GREAT AMERICAN INVENTIONS

"Necessity is the mother of invention."-Farquhar.

HE Epoch-builder of civilization is not the discoverer, nor the statesman, nor the soldier—it is the inventor. He is the "superman" who adapts the labors of all to the needs and utility of the people. Moreover, government and law—the whole ethical system of society—may be changed by a single invention. The telephone and the telegraph, the steamship and railroad—all American inventions except the last named—have had a larger effect upon human progress than all the world's wars. Electricity—an American discovery—is a more potent force in the world's advancement to-day than statecraft.

The seven wonders of the ancient world were the towering pyramids of Egypt, the wonderful light-house, or Pharos, in Egypt, the Hanging Gardens of Babylon, the beautiful temple of Diana at Ephesus, the statue of Jupiter by Phidias, the sumptuous mausoleum of Artemisia, and the bronze Colossus of Rhodes. We look back with awe and admiration at the seven wonders of the Middle Ages; there we see the stately coliseum of Rome, the catacombs of Alexandria, the great wall of China, the celebrated Stonehenge on Salisbury Plain, the leaning tower of Pisa, the porcelain tower of Nankin, and the mosque of St. Sophia in Constantinople.

It is interesting to contrast these with the wonders of the modern world: the wireless messages which speak from the sea and air; the telephone which hurls the human voice across the continents; the aeroplane in which men travel through the clouds, the phonograph, the motion pictures, the innumerable inventions that are daily proving the genius of man; the great scientific discoveries such as radium, antiseptics and antitoxins, spectrum analysis, and X-rays; and the gigantic engineering achievements that typify our present civilization.

America, if it had never accomplished any other service to humanity than the inventions which it has contributed, could well claim distinction as the greatest force in the world's progress. On this foundation, the American people have earned recognition as the foremost race among the nations. We are a nation of inventors; we are millionaires in inventions. The Patent Office has issued in excess of a million patents out of a total of three million for the whole world. We breathe invention in the very

air. Every day we are giving some new idea, great or small, to the world. It is America first and the rest seldom to be considered; in a single year when 35,807 patents were issued in this country, Germany stood second with but 1,083, and England third with 894, the list retrograding till we reach two apiece from Turkey and Costa Rica, and one each from Portugal, China, and Chile.

What have the great American inventions done for the human race? First, they have liberated the human race. To-day it takes about 50,000,000 people out of the 1,600,000,000 on this planet to manufacture the world's merchandise. Without American inventions, it would take the hands of 1,000,000,000 or nearly two-thirds of all the people, working ten hours a day, to manufacture this merchandise. And all the men and horses in the world and all the sailing ships could not transport the products of the farms, the mines, and the shops that American inventions have made possible. If it were not for American inventions the human race would be reduced to a state of economic slavery.

American inventions have enlarged the earth (or rather its power) many fold. They have multiplied the energy of the people of the earth by over 1,000 in transportation; by over twenty in manufacturing; and over fifteen in farming and mining. They have enormously enlarged the mental forces of the whole world, and have reduced the globe to a girdle of thirty minutes in communication. Since Benjamin Franklin "snatched the lightning from the heavens and the sceptre from the hands of the oppressor," American inventors have given to the world epoch-making inventions which have done more than all the preceding thousand years to shape the course of history.

The American inventor brought the world into communication; he girdled the world with the steamship; he lights the world. The American inventor harvests, threshes, grinds, and bakes the bread of the world. He makes the blank paper from the mountain spruce, flashes the news of the world to it, and prints it thereon. He types the world's letters. He has taken the tired horse away and put in his place the rubber tire and the automatic-car. He has laid down the rail around the globe that holds to the track the thundering express train with a speed of sixty miles an hour. He pumps the rivers and gives sanitation to great cities. He grips and brakes the railroad trains from head-on destruction. He has given the world the iron-bellied ship and the torpedo that destroys it. He has put into the hands of the man in the trench the breech-loading gun. His steam shovels cut the channels of the great canals. He makes midnight turn into the light of day. He penetrates the secrets of the clouds, the fogs, the winds and the calm azure blue, and tells the farmer when to cut and



AMERICA'S CONQUEST OF THE AIR—The airship begins with the discoveries by Prof. Samuel Langley of the Smithsonian Institution—The first successful flights in modern aeroplanes were made by Orville and Wilbur Wright in 1908.



DAWN OF EMPIRE OF THE GREAT WEST—This engraving immortalizes one of noblest idylls in the world's romance—Migration of pioneers across the continent to settlement of the great States of the West—These heroic journeys across plains and mountains are classics in American courage.

GREAT AMERICAN INVENTIONS

take in his hay, and the ship at sea the weather ahead. He carries the vibrant voice of man's lips to his fellows' ears across the vast spaces of light and darkness. He immortalizes a world-renowned singer's voice and sends it to the peoples of the earth. He wings the central blue and carries a sword of battle to the clouds and drops it upon the naked head of a city. He gives every son and daughter of Adam a cotton shirt and sews the cloth.

American genius has done all these things and many more, for the clock scarcely strikes an hour when someone in this country does not invent something. Americans have invented more than half of all the useful inventions of the world. Before Americans began to invent in earnest, Europeans had from the days of Pericles invented not more than a dozen great things, among them, movable type, the galvanic battery, the telescope, the steam-engine, the power-loom and the spinning jenny. The power-loom and the spinning-jenny never would have been developed without

Whitney's cotton-gin.

It was the American inventor that forged the key to the Great War in Europe, for that key, according to David Lloyd-George, is the machine-tool. The United States Government gave Eli Whitney, the inventor of the cotton-gin, an order to manufacture 10,000 muskets for the army. It was then that he invented a machine for making the duplicate parts of the gun. He was the father of the machine tool—and not until about twenty years ago did Germany adopt this American idea that has made her a land of annihilating machinery. The machine-tool is the key to America's supremacy in invention, for every great American inventor since the days

of Whitney has inherited it.

Every great American invention with its human element is an absorbing romance. Among the immortal engineer inventors are John and Robert Stevens, Fulton, Ericsson, Shaw, Langley, Westinghouse, and the Wright brothers. Among the famous mechanics are Howe, Morse, Edison, Bell, Whitney, Sholes, Hotchkiss, Mergenthaler, Reynolds, and McCormick. Among those who made new discoveries in chemistry are Goodyear and Tilghman. And towering even above these was that supreme scientific mind, Benjamin Franklin, the father of American science and invention. His mind went down to fundamental principles, and he identified lightning with electricity and brought the whole scientific world to direct electricity into practical channels. America's debt to Franklin is greater than its debt to Washington or Columbus.

On all the seas of the world there are nearly 5,000,000 tons of steam-shipping afloat, as we observe in the chapter on commerce. This vast navy, with its passenger service for the earth's travel, with its hundreds of millions of dollars of cargo, and with its giant naval armament, was all

brought into this world by the inventions of three Americans-Robert Fulton, Colonel John Stevens, and John Ericsson. Fulton had given the steamboat and the submarine to the world in the first decade of the Nineteenth Century. The next long step was inevitable in the invention of the screw-propeller by Stevens, which forever sealed the doom of the sailing vessel and completed the conquest of the ocean by steam. There was but one more long, distinct step in invention to be taken to arrive at the great floating steel fortresses and ocean grayhounds which we have to-day, and that step was also taken by Ericsson, in the famous Monitor of our Civil War. So it was an American that harnessed steam in a ship; it was an American who first made the steamship stake control of the seas; and it was an American that made possible a liner of 50,000 tons and 1,000 feet in length, with her flexible steel sides, the modern conqueror of the world's commerce. From the brains of Fulton, John Stevens, and Ericsson have come not alone the world's commerce but also the present terror of the seas, the submarine.

It was Fulton's steamboat that threw open the Mississippi and the Missouri Rivers in the first quarter of the Nineteenth Century and made the Great Valley and Middle West a land of reality to the American people soon after the Louisiana Purchase. The American continent owes its con-

quest in the first place to the steamboat.

There are now 600,000 miles of railroads in the world, which represents about \$40,000,000,000, as discussed in the chapter on railroads. If the inventions of two Americans, Robert Stevens, and George Westinghouse, had not come to crown the inventions of Watt and Stephenson, this railroad mileage equaling a distance of twenty-four times the circumference of the globe, could never have been built. The cost of its construction would have bankrupted the world, and would have destroyed more life than war. American inventive genius has not only made the modern railroad possible, but has given it all the efficiency and safety that it possesses.

It was an American, Robert Stevens, the son of Colonel John Stevens, who perceived that a train of cars would never attain a speed of more than ten to fifteen miles an hour on the then flat iron rails without running off. Out of this pressing necessity for both speed and safety, he conceived the cross section or T rail which called for the flanged wheel. Stephenson's engine could pull the train. Robert Stevens' T rail fixed the cars to the track up to a certain limit of speed and scored a tremendous advance in railroading. It fixed the pace and safety of the middle of the Nineteenth Century in America and Europe. But, while the driver of the locomotive might run his train as fast as the traffic on the road would permit, a fifty mile an hour express train was an impossibility. The railroad was limited.

GREAT AMERICAN INVENTIONS

It must be swamped by the growth of travel and shipping. Then it was that, in the memory of men living, George Westinghouse put the full control of the car-wheels into the hands of the man in the cab by means of the air-brake lever and the age of railroading entered upon the modern era.

American Genius Revolutionized the World with the Telegraph

MERICA gave to the world the power of communication by electricity. The telegraph stands as a mighty memorial to American genius, virtually holding together with its web of copper wire the whole structure of modern civilization. Its sensitive nerves stretch from city to city, from hamlet to hamlet, wherever there is a pretense of civilization, welding the whole world into a common brotherhood of intelligence. It is the hand-servant of every progressive industry. Many could not exist without it. Think of the newspaper without its telegraph wires, the railroads, the business world, the armies, the navies, the governments, or any other phase of our modern life. The mammoth railroad system of the earth never could have been developed without the telegraph. The telegraph is the eyes and ears of the railroad, for the railroad is as dependent on these as a man on his senses for the protection of his body.

There are now 325,000 miles of telegraph wires over which were sent last year 90,000,000 messages. Some of these lines have more than a hundred separate wires and are attached to instruments sending as fast as twelve words to the second. These 90,000,000 messages range from a page of 7,000 words in a newspaper to the short ten word message. If all these messages were only of ten words in length, they would amount to 900,000,000. If they average 100 words they would rise to 9,000,000,000. They do probably average 50 words for there is now an immense service of long cheap night letters and the volume of business of the press associations and special news is growing at a rapid rate. This vast aggregate of messages does not include the business of the railroads.

Within the last five years the words sent over the telegraph wires within the United States would more than fill every book in the New York Public Library. It would rival the number of words in the books of the British Museum. These messages are coming by the tens of thousands at every tick of the watch in the twenty-four hours of the day, and the young army of 60,000 messenger boys are delivering them in ten thousand cities, towns and hamlets in this country. These telegraph messengers visit more people in a day than any other group of employees not even excepting the postmen.

A single American telegraph company has a sufficient length of wires

woven all over the United States to form three telegraph systems, allowing two wires to each, to reach to the moon. Even then, there would be enough left to wrap eight times around the earth at the Equator. Even this would not use it all, and the balance would form a line from New York, across Europe and Asia and beyond to San Francisco. There are about 100,000,000 people in our nation; if these telegraph wires were divided equally among the Americans, each one, irrespective of age or sex, would have a line 837 feet long. This one company has more telegraph offices in this country than there are dwellings in the State of Nevada.

The wizardry of the telegraph was well tested when Great Britain's ruler, King Edward, died at midnight of May 6th, 1910. In New York the people on the streets read of his death four hours before that time. This is accounted for by the difference in time between London and New York and the genius of the telegraph. Compare this with the experience of our grandfathers and you can understand what the electric telegraph means to modern civilization. In their generation, King William IV, greatuncle of Edward, died co-incidentally with the birth of the electro-magnetic telegraph. The news did not reach this country until about three weeks had passed, though swift messengers carried the news to the seaside, from

whence steamships raced across the Atlantic.

It is hardly necessary to mention the name of the inventor of the telegraph—it is a household word. To tell the development of the idea of the telegraph is to relate the history of civilization. From the time man began to write or communicate, he strove to increase the distances. The word telegraph, taken from the Greek language, literally means "far writing." History tells of the Greeks signalling by torch, of the Romans' fleet messengers, and of Napoleon's semaphores. It tells how electricity was discovered, and how scientists discovered many new uses for it, and developed those elements which the American genius of the telegraph was to have at his command enabling him to send messages over a copper wire to almost any distance. To-day one can telegraph around the earth within thirty minutes.

The man who placed the world under obligation to him for permitting it to flash a letter to China, or a million dollar business contract to Russia or Timbuctoo, was Samuel F. B. Morse, the inventor of the telegraph pencil. As a boy, he had studied Franklin's discovery that electricity could be conveyed by a metal rod or wire. But he dropped the subject and became a painter of portraits, and for a time eked out an existence with his brush. Then his friend, Freeman Dana, interested him in electro magnetism and led him to investigate the subject. On the way back from Europe, where he had gone to study electrical science, he developed the idea of a small



ATHLETIC SPORTS IN AMERICA—Glimpse of 70,000 people watching a football game at the famous "bowl" at Yale University—The National game of the American people is baseball—Athletic contests are important events in various parts of the country.



GREAT UNIVERSITIES OF MIDDLE WEST—University of Chicago has more than 8,000 students—The present institution was chartered in 1890. Women are admitted to all departments of the University—First to establish a university extension course.



STATE CAPITOL AT AUGUSTA, MAINE—This State has an area of 33,040 square miles (larger than Ireland)—Its population is 742,371 (nearly equal to the Republic of Santo Domingo and British Honduras)—Admitted in 1820.



STATE CAPITOL AT BOSTON, MASSACHUSETTS—This State has area of 8,266 square miles (larger than Porto Rico and Cyprus combined)—Population 3,336,416 (larger than Norway and New Zealand combined)—Original State in 1788.

telegraphic apparatus with notations. He reached Washington and asked Congress to aid him in constructing a telegraph line between that city and Baltimore. Both England and France refused him a patent. He had become penniless, but he fought Congress until, five years later, it granted him an appropriation to build a line between Baltimore and Washington. His first message, "What hath God wrought?" was flashed across the wire in 1844. Congress was unable to appreciate the value of the telegraph and the Postmaster-General declared that the revenue could not be made equal to the money necessary to construct the lines. Hence, the invention was developed by private ownership and the telegraph property in the

United States alone is worth to-day over \$500,000,000.

The laying of the mighty Atlantic cable is a familiar story to the average American. It is this great telegraphic agent which has literally swept away the watery barrier to the conveying of information between the New World and the Old. Another of these great wizards is the Wireless telegraph, a name synonymous with that of its invention, Marconi, an Italian, who is working out his problem in America. Seldom is it the fortune of the inventions to have such dramatic baptisms as that which attended the introduction of the wireless telegraph to an incredulous world. Everyone recalls how its mysterious electric spark leaped out of the dark night from the deck of the foundering Republic, when she was rammed by the Florida in 1909, circled in eddying waves from the depths of the sea to the Nantucket shore and to those vessels equipped with wireless apparatus and within range of its appeal, and how help was rushed to the sinking ship in time to rescue more than a thousand lives from a watery grave. That was but one of the many services it renders to humanity, as men become more acquainted with its powers. It was in 1913 that the world was again astonished by its powers. Then the mighty Government station at Arlington, in the shadow of the National Capitol, succeeded in sending and receiving a message from Italy on the Mediterranean.

American Genius Hurls Human Voice Over the Earth—the Telephone

HEN comes the telephone to hurl the human voice around the earth. The telephone is an extension of the telegraph but in the United States the child has outgrown its father, and this country has more telephones than all England, Germany and France combined. The telephone is more American in its origin than even the telegraph. It was not only an American that invented it but every improvement that has made the telephone what it is now, one of the most indispensable necessities of civilization, has been effected by American inventors.

The whole world now has about 15,000,000 telephones, 10,000,000

or two-thirds of which are in America. Germany has 1,500,000, Great Britain 800,000, France 600,000. The length of the wire used throughout the world is 80,000,000 miles. Of this mileage the United States had 16,000,000 miles last year. Over this world mileage 25,000,000 conver-

sations passed, 15,000,000 of which were in this country.

Nowhere else does the telephone work so fast as it does in America. It takes a man in Paris seven and one-half times as long to speak to another man over the telephone as it does in New York. In New York the average time is eleven seconds while the Parisian has to wait one minute and twenty-eight seconds. New York now beats London within the Metropolitan districts but to nearby towns London holds the record. In long distance calls as far as Buffalo, Chicago, St. Louis and Atlanta, New York ranks first. It takes Rome an hour to reach Berlin, or Berlin half an hour to reach Vienna. After 9 P. M. long distance telephony is closed between the smaller cities of Europe. You may thus see the value of time in America as compared to Europe.

New York now has more than 800,000 telephones, London 300,000, Berlin 200,000, Paris 100,000. New York's 5,000,000 population has 200,000 more telephones than 12,000,000 population of the three first cities of Europe. New York now calls over the telephone 2,500,000 times every day. New York is the telephone capital of the world. So dependent is business on telephones that if all the telephones were to stop for twenty-four hours there would be a panic. In the two telephone systems in America more than \$1,000,000,000 are invested. The salaried employees number 35,000—the salaries \$25,000,000 per year. The wage earners 125,000, the wages paid \$62,000,000, the income is \$200,000,000.

The name, literally meaning "a voice from afar" is taken from the Greek. It developed from one of those accidental discoveries; Alexander Graham Bell and his assistant, Thomas Watson, were experimenting with a multiple telegraph in 1875 in Boston, when the latter, standing before one of the telegraph instruments, suddenly heard Bell's voice as though the speaker were at his elbow, though actually he was in another part of the shop. They investigated and were startled to find that they had solved the principle of conveying speech by telegraph, as they first called it. It is for that wonderful discovery that Bell's name will ring down through the ages. He accomplished what hundreds of other scientists had tried to do since Sir Charles Wheatstone, the English scientist, began the pioneer experiments in the same year that the first steamship, the Savannah, crossed the Atlantic, 1819.

Among other great inventors working on this problem were Edison, Bell, Gray and Dolbar. Bell discovered the fundamental principles of

transmitting and receiving the human voice. Every valuable improvement made on Bell's model is American; they are the transmitter, the instrument ridding the wire of the sound of the earth noise, the invention of the switchboard, the discovery of the phantom circuit, the hardening of the copper wire so that it would stand up on long distances and magnetizing it so as to increase its efficiency. Every one of these discoveries was an achievement of great magnitude for as a result long distance telephony has come.

When we speak of the telephone our earth is not large enough to allow adequate comparisons. Mars' luminous rays of light are something like 35,000,000 miles away from the earth when it is nearest to us. The telephone wires radiating throughout the world are long enough to reach to Mars and back to the earth again, and there would still be 6,000,000 miles left with which to drape festoons to the moon. Of this the United States has about one-sixth strung throughout the nation, from the Atlantic to the Pacific and from the Gulf to the Canadian border. Each year a forest of over a million trees is leveled to supply the poles we require for

new systems and to replace old poles.

Modern business could not be conducted in its modern proportions without the telephone. There are in the New York Stock Exchange nearly 650 private telephones, over which each of the brokers sends at least 50,000 cryptic messages, involving millions of dollars, every twelve-month. Think of what it means to the modern newspaper. One metropolitan paper has twenty trunk lines and eighty telephones, over which are dispatched 200,000 calls, and 300,000 more are received every year. It has revolutionized the reportorial end of the industry; one reporter runs for the news, and then telephones it in to another who writes it. The telephone has become as indispensable in modern warfare as the artillery itself. Witness, in the Russo-Japanese War, the battle of Mukden, where 150 miles of telephone wire stretched across the field between the 100-mile crescent of Japanese soldiers storming the foe and the Japanese generals standing miles in the rear, but directing the assaults as clearly and accurately as though they stood at the head of their troops. It also performs a great secret part in the European War. To take the telephone away from the business world would be to stop its ears and cut out its tongue. It would paralyze every great modern center on the earth.

The telephone is now entering upon a new era—the age of wireless telephony. Messages were sent during 1915 across the continent and across the oceans on sound waves. The time is probably coming when the human voice will be hurled around the earth. This is the next

progressive step in the development of telephony.

American Genius Lights the World's Cities

T is the Americans that solved the problem of "turning night into the lightness of day." Darkness is driven from the face of the earth wherever or whenever we decide to do it. By the mere touch of the finger on a button whole cities are aroused from their slumbers into a blaze of light, and lie before us like fairylands. The Creator made the sun to shine by day, and the moon and stars to shine by night. And man discovered that what work he had to do must be done by day. He, the Creator, also made man tremendously ambitious. Moreover, He endowed

him with the power to work out the solution of his own happiness.

Man soon came to feel that night was somewhat of a burden to him. When the sun had set there was nothing for him to do but sit in darkness or go to sleep. So he decided to see what he could do to make light for himself; and his success has been astounding. By the time of the Pharaohs, bundles of wood were being dipped in grease to make flaming torches. Then, a thousand years later, some shrewd person invented candles. Wax candles began to appear at great State functions and at religious ceremonials. The candle consisted of a reed that had been coated with fat. This was held in an iron clamp, so that the burning end would be kept upright. When it was desired to obtain more light from the one candle, both ends were lighted. From this came the phrase, "burning the candle at both ends." After a while, men learned to refine tallow, and this solved the candle problem. But the ingenuity of man never ceases. About this time someone created a crude device for burning a wick soaked with grease or oil. It was called a lamp.

The first lamp was a hollowed receptacle. It was made of stone, a gourd, a shell, or a piece of bone. Oil or refined grease was poured into the hollow. A wick of moss or other vegetable matter was used to absorb the grease. The tip of the wick was then lighted and gave a glowing flame. The Greeks and Romans substituted metal receptacles. With their artistic capabilities they were able to make lamps of very beautiful designs. It was an American, Benjamin Franklin, who first proposed the hempen wick, but lamps were still without chimneys. One day a Frenchman was holding a bottle near a lamp. The bottom of the bottle was suddenly cracked off by the heat, and his fingers were burned. Quickly setting the bottomless bottle down, he placed it accidentally over the burning wick. He was amazed as he saw the effect. The light immediately grew brighter and burned more steadily. From that day onward we have had lamp chimneys. The chimney lamp was supposed to be a wonderful invention, and no doubt it was; but to-day we regard it as a most primitive



STATE CAPITOL AT CONCORD, NEW HAMPSHIRE—This State has an area of 9,341 square miles (larger than the Republic of Salvador)—Its population is 430,572 (larger than South Australia)—Original State admitted in 1788.



STATE CAPITOL AT MONTPELIER, VERMONT- This State has an area of 9,564 square miles (larger than Porto Rico and Alsace-Lorraine)—Its population is 355,956 (larger than Abyssinia)—Admitted to the Union in 1791,



STATE CAPITOL AT HARTFORD, CONNECTICUT—This State has an area of 4,965 square miles (larger than British Island of Jamaica)—Its population is 1,114,576 (larger than New Zealand)—Original State in 1788.



STATE CAPITOL AT PROVIDENCE, RHODE ISLAND—This State has an area of 1,248 square miles (nearly as large as Luxemburg and Hong Kong combined)—Its population is 542,610 (nearly as larger as Republic of Honduras)—Original State in 1790.

thing. It requires much cleaning and care; the wick had to be trimmed regularly, and the chimney was broken with discouraging frequency. With the discovery of oil and kerosene came the dangers of exploding and catching fire. Thousands of lives were sacrificed through accidents with chimney lamps, and nothing was ever discovered which would make them safer.

American inventive genius found the solution. It was in 1865 that Professor T. S. C. Lowe, who had already won fame for his aeronautical exploits in the Civil War, discovered how to get water gas from coal. That same year he erected the first central gas plant in the world. The gas, after it was generated, was sent into an immense tank, and from this it was distributed by iron piping to homes and factories. Gas lighting as an institution owes its greatest development to Americans. It was thought at that time that this was the last great improvement that could possibly be made in connection with artificial lighting. It was only necessary to turn a stop-cock and apply a match—and there was illumination. The cost was not great and the convenience was wonderful. Gas lighting was at first a luxury to be found only in mansions and palaces. Soon it was put in even modest homes, and the streets began to be lighted by it.

But the last word in lighting had not yet been said. The time was to come when gas light was to be as old-fashioned as candle light. It was in 1879 that the American wizard of wizards, Thomas A. Edison, revealed the secret. He took a glass bulb from which the air had been drawn. Then he placed a filament of carbon in it so arranged that an electric current could be passed through it. Behind, the filament burst into light and glowed brightly. This was the first electric light for practical home purposes. It was made to give a light equal to about eight candles. The old-fashioned gas jet gave about that amount of light, so it now had a rival.

The world figuratively sat up and rubbed its eyes. For the first time in the history of civilization, man was in possession of a practical light that was not produced by combustion of anything. It burned, or rather glowed, without the slightest flicker; there was no smoke; it gave off very little heat, and it would not be blown out. All that was needed to carry it into any house was a double line of wire that could be very easily strung from the central power plant. Now, for the time, rural districts as well as cities could be brought into the new "darkless age." Gas lighting had never been practical except in cities, and the farmer still was forced to use oil lamps—until the coming of the electric light.

The great modern city, with its tens of thousands of night workers, would be well-nigh impossible without electric light. It has reduced crime in the streets of great cities fifteen per cent. and increased the service of

the streets at night thirty per cent. The first electric street light was the invention of Charles Brush, the noted electrical engineer of Cleveland, Ohio. He lighted his lamp by means of a carbonized filament. The electric light has been further greatly improved by the substitution of the

Tungsten filament for the carbonized filament.

Through the electric light, man's activity has been doubled. Former civilizations may have excelled in some respects, but ours has seen the end of superstition and has shorn night of its illusions and terrors. Modern lighting is nothing less than magical. Gigantic chandeliers light our halls with even greater brilliance than comes with the daylight. Our streets are very nearly as bright at midnight as they are at noon. On our coasts stand lighthouses with beacons that may be seen fifteen miles away. In our forts are searchlights which may pick up and illuminate ships ten miles out at sea.

Where has the world seen such magic before? A man in a power house turns a switch and a home many miles away is lighted. The turn of another switch—and the streets of a whole city with millions of inhabitants burst into radiance. The turn of still another switch sends a flood of light under the earth into the tunnels of the city where trains roar under the same power of electricity. Again, the turn of a switch lights up hundreds of miles of country roads. As late as the Eighteenth Century any man who had declared that such a thing might be might have been prosecuted as a madman or as a practitioner to the "black art." Lincoln, as a boy, studied by the light of a wood fire; yet many of his contemporaries are still living. In two generations the electric light has completely revolutionized the life of man.

American Genius Immortalizes Human Voice—the Phonograph

PERHAPS the most miraculous of all the American inventions—the one that raises man to the planes of immortality—is the phonograph. Though mortal man may die, his voice lives forever through the agency of this American invention. Through its weird power a man's voice may sing his favorite song over his own body as it is laid in the grave; the wife touches a lever of this machine and again hears her husband's voice, though he has been buried beneath the earth for years. The inspiring notes of the world's greatest musicians have been captured and locked within this miraculous talking machine—Caruso, Patti, Calvé, Tetrazzini, Sembrich, Paderewski, Kubelik, and scores of others have given their greatest masterpieces to the machine which will preserve them for future generations. The voice-records of the contemporary singers, musicians, and statesmen are being taken upon imperishable records, and stored

in air-tight metallic cases, within hermetically sealed vaults, which are not to be opened for at least one hundred years. Think what it would mean to the American to hear the inspiring voice of Washington, as he bade farewell to his officers of the American Revolution; or the thrilling voice of Lincoln, as it swept out over the battlefield of Gettysburg; or the patriotic voice of Patrick Henry, or Henry Clay, or Webster, or Calhoun, as they swayed the destiny of the nation with their magical utterances.

The invention of the phonograph is a product of Thomas A. Edison's genius. Its great principle is that of fixing and storing sound in dense matter for reproduction. The wonderful possibilities of this principle are not fully dreamed of as yet. Science is already aware that all matter fixes sound within it, but we must know how to reproduce the sound. The wall of a house undoubtedly contains the sound of the speech of one who spoke

there a hundred or a thousand years ago.

Edison invented the magic "box of wood, mechanism, and mica," as it has been called, in the same year that Alexander Bell completed his telephone. It was accidental, in a way, for he was working to perfect the sending instrument of the telegraph, when he suddenly found that he had almost unconsciously unearthed the secret for which scores of Europeans had been striving for a century. But there was one thing that stood between him and success—the cylinder, or record, which he had wrapped with tin-foil and which proved unpractical. It was Alexander Bell and Sumner Tainter who contrived the wax record, using it on their machine, which they called the graphophone, in the year 1885, eight years after Edison's phonograph. Two years after the birth of the graphophone, the European, Emile Berliner, produced the gramophone.

American Genius Regenerates Trade—the Typewriter

It was an American who revolutionized the whole business world, who increased the productivity and capacity of business more than a hundred fold when he gave to the world the typewriter. It has been the economic emancipator of woman—through the typewriter the American woman has entered into the business world as a strong factor. It gives employment to a feminine army larger than that with which Wellington crushed Napoleon at Waterloo; or a host more numerous than that which was mustered under the standards of the French and Allies at Leipsic—said to have been the largest gathering of armed troops on a European battlefield until the present European War.

The typewriter received its first public recognition at the time when we were celebrating our first hundredth national birthday, in 1876. It is only during the past few decades that it has been in general use. To-

day the modern business world is dependent upon the typewriter and could not continue if compelled to go back to using pens and pencils to write out

correspondence by hand.

The American, W. A. Burt, made the first machine in our country about the time we were laying our first railroads, but his machine proved impracticable, as did those of many of his followers. It was the American, Charles Latham Sholes, who has the honor of inventing the first practical machine, beginning his work in 1868 and spending the following eight years before he was successful, until finally his machine was introduced to the world in 1876. The first machines placed on the market were made in Milwaukee. The typewriter is literally the right hand of the whole business world. Nowhere where money goes and trade flourishes is man without the typewriter. Every language with its distinct letters has its typewriter, as it has its Bible.

American Genius Emancipates Woman—the Sewing Machine

THAT American invention has done the most for the women of the entire world? The answer is plain—the sewing machine. It is indeed the great benefactor of woman. No invention has done so much to deliver woman from drudgery. No one piece of machinery has done so much to deliver her from her burdens, her seclusion, her serfdom. Fifty years ago, more than half the people of Europe and America went barefooted half the year. The sewing machine has changed all that—and it has prolonged millions of lives. It has broken up harems in Turkey; it has lifted the veil from many feminine faces in the Orient. This wonderful machine, which has changed the habits and customs, and even the personal appearance, of the people of the earth, is the product of American genius and American skill. It took many minds, and more than a hundred years, to invent and perfect it. The history of no invention is more replete with effort and disappointment. It is not known how many men tried to construct and improve it, but there have been at least 25,000 patents recorded on the sewing machine and its attachments. In this respect only the steam engine surpasses it. It was the dream of early England, but it required America to bring it into realization.

The first lock-stitch machine was made in New York, in 1832, by Walter Hunt, but he failed to perfect his idea or to have it patented, and thus lost the credit and the fortune. It remained for another American, a farmer's boy, to give the sewing machine to a waiting world. His name was Elias Howe, and he was born on a farm in Spencer, Massachusetts, in 1819. He lived with his father, working upon the land and in the grain mill, until he was seventeen years of age, and attended the district school



STATE CAPITOL AT ALBANY, NEW YORK—This State has an area of 49,204 square miles (larger than Ireland and Switzerland combined)—Its population is 9,113,279 (about equal to the Persian Empire)—Original State in 1788.



STATE CAPITOL AT TRENTON, NEW JERSEY—This State has an area of 8,224 square miles (about equal to Saxony and Oldenburg combined)—Its population is 2,537,167 (larger than Norway or Bolivia)—Original State admitted to Union in 1787.



FIRST RECEPTION OF THE FIRST LADY OF THE REPUBLIC—This historic engraving by Seitz portrays the brilliant reception given to Martha Washington during the inaugural of her husband as first president of the United States. It was attended by the aristocracy of the New World.



BRILLIANT SCENE IN THE BIRTH OF DEMOCRACY—The wife of Washington arrived at the inaugural ceremonies accompanied by a cavalcade of gentlemen and brilliant women in carriages—The thunder of 13 cannon welcomed her at the battery in New York—The throngs paid her homage.



STATE CAPITOL AT COLUMBUS, OHIO—This State has an area of 41,040 square miles (about equal to Scotland and Belgium combined).—Its population is 4,767,121 (larger than Greece, or Peru, o. Lulgaria)—Admitted in 1803.



STATE CAPITOL AT HARRISBURG, PENNSYLVANIA—This State has an area of 45,126 square miles (about equal to Scotland and Denmark combined)—Its population is 7,965,111 (about equal to Norway and Sweden)—Original State in 1787.

during the winters. Then he learned the trade of machinist. It was in 1846, when Elias Howe was 27 years old, that he announced that he had

solved the problem of the sewing-machine.

This was the beginning of a remarkable career, in which he fought and overcame many obstacles. He constructed four machines and then went to England to introduce them into that country. He sold out his English rights to a corset manufacturer for a few hundred dollars and worked in this man's shop with his primitive machine. Two years later, he learned that his patents were being seriously contested in Boston and returned to that city. He was penniless, and for months the inventor of the lock-stitch needle fought with his back to the wall. He found it necessary to resume his trade as a machinist to keep his family from starving. Greedy inventors began to infringe his patents, and expensive lawsuits kept him in poverty for several years.

It was not until 1854 that his claims were firmly established and his patent rights acknowledged. Then began the royalties that were to be his reward. When the Civil War broke out, his heart was stirred with patriotism, and he enlisted as a volunteer. Honors began to pour upon him. He was the recipient of many medals and the Cross of the Legion of Honor. Twenty years after his invention, he was a millionaire, and his lock-stitch needle, though apparently a very simple invention, has given

him rank as one of the world's greatest mechanical geniuses.

Ingenious American brains finished the invention. John Bachelder, a well-to-do Boston merchant, was quick to perceive what Howe's machine needed to make it a wonder-worker. He sold his prosperous business, set up a machine shop, and undertook to build a machine that had a horizontal head-piece or table, on which the material to be sewn was supported; Howe's bent needle was straightened into a perpendicular one with an eye point; it was given a needle plate, a continuous feed, and a device for pressing down the cloth while in the vicinity of the needle—five vital points. With these improvements, the great American sewing-machine was on its way to perfection. A few years later, an improvement was added by Isaac Singer, a New York mechanic. Then came A. B. Wilson, who practically completed the leading principles of the sewing-machine. What have been added since are minor features and improvements.

Thus the sewing-machine was evolved by slow degrees and at the close of the Civil War its sale had grown to a considerable business. It played its part in making clothing for soldiers in the Union Army, and a number of machines were smuggled across into the Confederate lines. There were eighty-six establishments, in thirteen States, manufacturing sewing-machines in 1860, and the output was valued at \$4,000,000. The output had

increased to \$15,000,000 ten years later. To-day there are forty-seven factories in the United States, employing 20,000 workers, with an output

of \$28,000,000.

The sewing-machine has now encircled the globe. Over ten million dollars' worth of machines are now exported in a single year, nearly a fourth of these machines going to Scotland alone. Of all the foreign nations, only the Germans have succeeded in making a machine that can compete with the American machine. One may now find an American sewing-machine in almost every civilized community on the globe. The peasant in Russia, the black mother in Africa, the coolie in India, the almond-eyed ladies in China—all have American sewing-machines to-day.

American Genius Solves World's Food Problem—Agricultural Implements

MERICAN inventive genius solved the food problem for the peoples of the earth. At the beginning of the Nineteenth Century, when our modern farm machinery was not known, ninety-seven per cent. of the Americans were compelled to work farms to raise enough food for themselves and stock. Then there were only six cities with populations of over 8,000. One century later, through our modern farm machinery, only thirty-seven per cent. of the Americans were required to work the farms, and they were producing not only ten bushels of wheat for every American, but were also able to export farm products valued at \$950,000,000. The remaining sixty-three per cent. of our population, released from farm work by modern machinery, were able to live and work in the urban districts, and, at the close of the century, had reared 484 cities each of whose populations exceeded 8,000 people.

in Rockridge County, in Virginia. On this same farm, Robert McCormick had attempted to solve the problem, but it remained for his son, Cyrus H. McCormick, to make the first practical machine, in 1831. Though crude in workmanship, it embraced all the essential features of the modern machine—the divider to separate the standing grain from that to be cut, the revolving reel to press the grain against the cutting blades, and the platform between the two wheels on which the sheaves fell, ready to be bound by hand. At this time, that other great machine, the thresher, was in its formative stage, being known as the "ground hog" thresher. Six years after the birth of the reaper, the Maine inventors, Hiram and John Pitts, patented their machine of endless belts and beaters, which separated

The first practical reaping machine had its birth down on a small farm

embraces the chief features of the modern machine. But the problem was not yet fully solved. Without Case's wheat-thresher the bulk of the great wheat crop would rot in the chaff and straw. All the old-fashioned flails, and treadmills and crude threshers of fifty years ago could not thresh a third of it. Case made the first model of his machine in a farmhouse near Racine, Wisconsin. His first device united the thresher to the separator, and to-day that machine and its like made the great wheat elevator what it is. The third great harvesting machine, the automatic twine-binding harvester, was the invention of John F. Appleby, of Wisconsin, and appeared about the year 1880. To-day these three wonderful machines are combined into one and are harvesting the great grain fields of the Pacific slope, while the same machines, as separate units, are traveling in batteries of twenty to forty over the wheat fields of the Dakotas and mid-Western States.

It is an inspiring sight to watch the harvest of wheat in the San Joaquin Valley of California, for instance. Yellow as gold, with the sheen of the sea, the field billows from sky-line to sky-line. Here comes the huge combination harvester, either drawn by a modern tractor engine or scores of horses. In the latter case, the driver is perched upon what seems to be a ladder thrust at right angles from the ground and out over the horses' backs. At the right side of the machine is seen flashing in the sunlight what appears like a frail, old-fashioned mill-wheel, but is in reality the revolving reel which captures the grain and holds it until the knives have performed their work. Under the reel is an endless belt, which receives the cut grain and conveys it into the mysterious interior of the machine, where it is threshed, cleaned, and poured into sacks. The chaff and straw pass in another direction. Thus the machine goes, cutting a swath fourteen feet wide, performing the work of 150 horses under oldtime conditions and leveling each acre of wheat at the average cost of fifty cents—a fraction of the cost by old-fashioned methods.

The farm machinery and implements of the United States represented, in 1912, an investment of over \$1,000,000,000—a sum sufficient to pay the expenses of running the entire Government for a year. In the course of an argument before the Commissioner of Patents, it was declared that the McCormick reaper was worth \$55,000,000 a year to this country. So valuable was this patent that its extension was refused McCormick, but with improvements on the original patent, the McCormick works in Chicago were founded and now turn out more than 100,000 reapers a year. The world's great wheat crop of over 5,000,000,000 is all practically harvested with this American reaper.

Then came John Stevens; he discovered that he could get twenty-five

per cent. white flour from a stone smoothly dressed, while a rough stone would give him only ten per cent. The supply of burrstone was limited, and the idea occurred to him to use smooth corrugated iron rollers. After much trouble and expense, he had the iron roller made according to his idea. When he got his system into operation, it doubled the output from the same power, and he was able to secure ninety per cent. of good flour. Thus we have the roller-mill, now used the world over and undoubtedly one of the greatest American inventions.

It is the plow, perhaps, that tells the story of civilization more eloquently than any other agency having to do with the building of nations. It is interesting to note that, in this age of American forty-gang plows drawn by machinery, the ancient plow of the Babylonians and Egyptians still turns the furrow in various parts of the world. The ancient forked stick, drawn by camels or oxen, still plows the plains of Sharon, outside of Palestine, just as a similar instrument turns the earth in the highlands of Mexico, or even on the farms of Mohave Indians in our own Southwest.

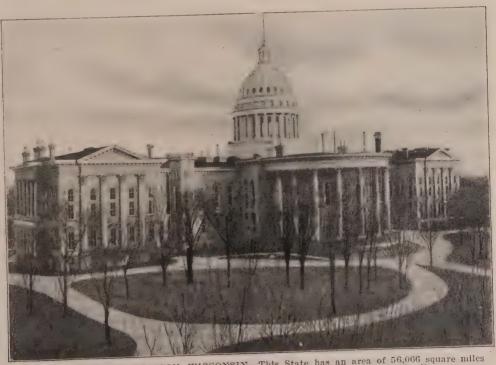
There are legions of American plowmen, probably 10,000,000, who go into the fields every spring and with their modern plows turn up empires of rich earth.

In the decade preceding the beginning of the American Civil War, American plowmen were most all using the English wooden moldboard plow, equipped with an iron point. At that time they were plowing an area of land which was larger than the entire country of Sweden. Sixty years later, the era of modern plows had dawned, and our plowmen were turning over every year an area four times greater, or nearly as large as the whole of Mexico. Our crops in that time increased from about \$2,000,000,000 to nearly \$10,000,000,000. That is the magic of the modern plow, without which these tremendous crops could never have been planted.

Two years before the first complete railroad joined the Mississippi with the Atlantic, the real secret of the plow had been discovered. This genius was the American, James Oliver, of Indiana, who began, in the year 1855, to manufacture his famous chilled iron plow, which successfully resisted the wearing power of the earth and automatically scoured itself, as it passed under the ground. While Grant was besieging Petersburg in the American Civil War, the first steam plow was operated in America. Two plows were used first, and then more added, until ten, twenty, and even thirty plows were hauled by one engine cutting parallel furrows. Then the climax was reached when recently forty-four plows were attached and turned up the same number of furrows in any kind of soil. This mighty machine, operated by only two men, can do more work than was



STATE CAPITOL AT LANSING, MICHIGAN—This State has an area of 57,980 square miles (about equal to Greece and Belgium combined)—Population 2,810,173 (about equal to Norway and Orange Free State combined)—Admitted in 1837.



STATE CAPITOL AT MADISON, WISCONSIN—This State has an area of 56,066 square miles (larger than Switzerland, Belgium, Denmark, European Turkey combined)—(larger than Spoulation is 2,333,860 (larger than Norway)—Admitted in 1848,



STATE CAPITOL AT SPRINGFIELD, ILLINOIS—This State has an area of 56,665 square miles (nearly equal to Greece and Belgium combined)—Its population is 5,638,591 (larger than Kingdom of Sweden)—Admitted to the Union in 1818.



STATE CAPITOL AT INDIANAPOLIS, INDIANA—This State has an area of 36,354 square miles (larger than Portugal)—Its population is 2,700,876 (about equal to the Republic of Venezuela)—Admitted to the Union in 1816,

done formerly by forty-four men and eighty-eight horses. It travels at

the average rate of twenty-five miles a day.

This is the wonderful machine which has made possible the vast wheat fields of Western America. In the springtime it is an inspiring sight to look upon the monster "caterpillar," as it is familiarly called, starting to turn a 30,000-acre field. It often performs three operations at once. Behind the tractor engine come the plows, steadily performing their work, while attached behind them are modern harrows to smooth the upturned earth, and behind the harrows come the mechanical seeders, dropping the grain in the furrow.

American Genius Inaugurates New Epoch-the Cotton Gin

NOTHER great epoch-maker in American inventions is the cotton-gin, the machine that revolutionized the whole economic system of the nation and made cotton one of the world's greatest crops—a crop upon which the financial condition of the nation is largely dependent. The story of the cotton-gin is the revelation of the development and prosperity of the Great South. Its development is the development of the South; its wealth is the wealth of the Southern people. And we owe it all to the genius of that American-Eli Whitney, the Massachusetts tutor-to whom the South pays deep homage. Wherever you go in our great cotton belt, which sweeps from the Atlantic to the far borders of old Mexico, you will find the same cotton-gin, in essential points, that Whitney invented while residing in the family of our distinguished Southern lady, Mrs. General Greene, wife of the Revolutionary hero, in South Carolina. He brought it into this world a completed machine, which countless mechanics have been unable to improve upon, one of the few great creations which have this distinction. His gin was completed in 1784, two years after the first government coining mint was opened in Philadelphia.

The cotton-gin is a simple machine, but it is in its simplicity that its greatest value lies. For ages planters had been growing cotton, but the picking out of the seeds was an endless task and prohibited cotton culture on great scales. The Hindus and the Chinese are said to have had a crude machine which is known as the "churka." What the cotton-gin means to the South, and of course to the world, is revealed in the fact that, before Whitney invented it, the Southern States produced only about 2,000,000 pounds in 1790. One hundred and twenty years later, the crop amounted to 6,000,000,000 pounds, or three thousand times as much. In 1793, the year in which Whitney devised his gin, 5,000,000 pounds of cotton were grown in America. In 1825, the year of Whitney's death, the cotton ex-

ported from the United States was valued at \$36,846,000, and all other exports at \$30,094,000. In 1913, the American cotton crop was worth a round \$1,000,000,000. We supply three-quarters of the world's 133,000,000 spindles with cotton which is valued at \$700,000,000, a sum nearly as great as that which the Russians had in their state and postal savings banks in 1912. Cotton is the world's great commodity; it is as standard as gold. It has been estimated that, if all the cotton bales produced in a year were stood on end to form a column, it would reach nearly 9,000 miles high, or it would require a solid train of freight cars, each loaded to full capacity, numbering about 138,000 cars, to move them.

American Genius Utilizes Rubber Forests-Process of Vulcanization

MERICA revealed to the world the secret of the utilization of rubber by the process of vulcanization. This developed one of the greatest and most indispensable industries. So valuable is rubber the chemists have spent years of toil in trying to manufacture it synthetically, and they have succeeded, but not for commercial purposes. Rubber in great quantities is used in almost every industry. Fifty million dollars are spent annually for the rubber tires on automobiles alone. Without them the automobile age would be impossible. Every one of these cars that spins over the globe to-day for whatever purpose is a monument to an American chemist inventor who struggled for years and nearly starved before he succeeded in vulcanizing raw rubber.

This was Goodyear, of Connecticut. After many efforts to vulcanize rubber, that is, to make it resist the hardening chemical process in water and melting in the heat of the sun, he succeeded by accidentally dropping some nitric acid on it. This made the rubber soft, pliable, flexible, and resisting to the hardening and melting processes. It was one of those accidents due to long patience and hard work in experimenting. This discovery made possible the great rubber industry and the great automobile

rubber-tire industry of the world.

American Genius Inaugurates the Paper Age-Pulp Processes

ODERN pulp paper is an American product. It was from Tilghman's discovery that the wood-pulp industry arose and has done so much to make the American newspaper what it is to-day. Until less than a short generation ago every newspaper was made of rags, and a copy of a paper with its comparatively meager news was a luxury. Now one has only to learn to read to have all that can be read. There is no great product so cheap as a newspaper. Without paper the modern world would be literally impossible. It has become a great part

of our social and business life. We use it for our money; we use it to send our news into every part of the earth; we use it to conduct the great stream of business correspondence which is the foundation of the whole commercial world to-day. It is the basis of our schools; it is the keystone of our system of law and justice; it is the medium of expression for our religions.

The world has passed through several so-called "ages"—but the present period may well be called the "paper age." We are slowly eating up our forests to turn them into paper. We are using nearly 5,000,000 cords of wood this year to make paper. One metropolitan Sunday paper will use 100 tons of paper, which requires for its manufacture 125 cords of wood, enough standing timber to cover six acres. Thousands of square miles of forests are being cut down to feed our paper mills. This is resulting in drying up our rivers and even checking our rainfall. At the rate with which the forests are disappearing since the coming of the "paper age" it is only a question of years before the supply will be exhausted.

The paper mills of the United States are turning out over 5,000,000 tons of their product every year. Its commercial value is over \$300,000,000,000,000,000,000,000 or more than twice that of all the gold and silver mined annually in this country. There are 90,000 people working in the paper mills. The total horse-power required to operate these mills was 1,034,265, exceeding the horse-power of the cotton industry and approaching that of iron and steel. It is estimated that 2,400,000 tons of this paper become absolute waste within three or four years, representing a waste of \$10,000,000 per year. The United States produces and consumes more paper than any other country in the world.

American Genius Revolutionizes Printing-Modern Presses

We have taken the Gutenberg invention and adapted it to the needs of modern times—and especially the great American newspaper. It is a remarkable advance from the press which Johann Gutenberg used in the year 1450 to print the first book, a Bible containing thirty-six lines. In the year 1814, the publishers of the London Times astonished the world by printing 800 papers in an hour on the steam printing press which Frederich Koenig, a Saxon, invented. Compare that with what our modern printing presses are doing every day in some of our metropolitan newspaper offices. There in the center of the press room is a mammoth mechanical genius which sweeps the whole gamut of mechanical ingenuity—from the most delicate chronometer to the swiftest locomotive. It virtually is twelve presses combined into one. It prints, pastes loose sheets

together, folds, counts, and stacks 160,000 sixteen page newpapers in an hour.

Let us compare its marvelous speed with our great railroad engines. The distance between New York and Chicago is about 900 miles, and the quickest schedule time by railroad is 20 hours. Starting the printing press and the locomotive at the same instant, the former will have printed and folded and counted into newspapers more than 1,000 miles of paper before the locomotive has completed half of its journey to the Illinois city. The paper is supplied to the press from rolls, weighing about a ton apiece. When one roll is finished, another stands ready and is automatically pasted onto the end of the paper as it leaves the first roll—and this is done without halting the flying machinery for an instant.

These inventions allow the American publishers to print more than 120,000,000 copies of newspapers and periodicals in a year. That is the miracle which allows the newspaper and periodical publisher to sell 8, 10, and even 48 page publications for a cent apiece, and enables him to distribute millions of copies throughout our nation every day—and allows

him to publish successive editions during the day.

The first printing press made in America came from the shop of Adam Ramage, in Philadelphia, in 1795. George Clymer, of Pennsylvania, built the first printing press capable of printing on both sides of a newspaper at once in 1817. Daniel Treadwell, of Boston, made the first American printing press operated by steam in 1822. Robert Hoe constructed the type revolving press, in which the type form was arranged on one cylinder and made to imprint upon paper passing over smaller cylinders. Then, William Bullock, of Philadelphia, applied the principle of printing on both sides simultaneously to the steam press. This marked the dawn of the modern printing era.

To-day the printing industry is the sixth in importance in the United States. It gives employment to more than a quarter of a million people, and creates in a single year products valued at more than \$800,000,000—a sum much greater than the total value of men's clothing, or cotton goods,

or boots and shoes.

American Genius Gives to the World the Typesetting Machine

HE Americans not only developed the modern printing press but solved the problem of type-setting. Johann Gutenberg, of Germany, made the first movable type about the year 1438. Gutenberg carved his type out of wood. His collaborator, Peter Schoffer, improved this method by substituting metal for wood. Four centuries after the birth of printing, an American watchmaker, Ottmar Mergen-



STATE CAPITOL AT ANNAPOLIS, MARYLAND—This State has an area of 12,327 square miles (larger than Belgium)—Its population is 1,295,346 (larger than Porto Rico)—Original State in 1788.



STATE CAPITOL AT DOVER, DELAWARE—This State has an area of 2,370 square miles (twice the area of Zanzibar)—Its population is 202,322 (larger than Island of Hawaii)—Original State in 1787.



STATE CAPITOL AT RICHMOND, VIRGINIA—This State has an area of 42,627 square miles (larger than Scotland and Belgium)—Its population is 2,061,612 (nearly as large as Kingdom of Norway)—Original State in 1788.



STATE CAPITOL AT CHARLESTON, WEST VIRGINIA—This State has an area of 24,170 square miles (larger than Belgium and Netherlands)—Its population is 1,221,119 (larger than New Zealand)—Admitted to the Union in 1863.

thaler, revolutionized the printing industry with his marvelous linotype, which transformed cold metal into solid lines of type-matter. For more than three-quarters of a century, the world's greatest mechanicians had

struggled with the problem.

Mergenthaler's linotype is an invention that has won a fortune for the poor German immigrant, with only \$30.00 in his pocket on landing. It has made the cheap book a reality the world over and has multiplied the power of the printing press. The modern linotype is more intelligent and accurate than the average human typesetter. The machine resembles, roughly speaking, a small pipe organ of iron and steel, with a typewriter set in position where the organ's keyboard would be. Before this keyboard the operator sits operating the keys and following the manuscript which hangs before him. Every time he presses a key, a little mould in which that particular letter is to be cast takes its place beside the preceding letter in an assembler. When the line of moulds is complete, a bell warns the operator and he begins a new line. The completed line of moulds is automatically carried by the machine to a pot of liquid metal. Here a little pump forces the metal into the moulds, and the type are cast. When the letters are solidified into a solid line of type as it will appear on the printed page, the line, or "slug," drops into its proper position in a frame, or "galley," and this, when full, is carried away to the composing room tables. In the meantime, the moulds have returned to their first position and are ready to make another journey through the linotype. Thus the modern linotype operator can set more than 1,000 words an hour, and it is by this magic that a battery of linotypes can digest and reproduce in cold type the thousands of words that flow through a modern newspaper composing room in the space of a few hours.

American Genius Creates the Modern Cities with the Elevators

MERICAN genius also conceived that wonderful contrivance, called the elevator, which has made great business structures possible. Without these steel cages, that plunge up nearly a thousand feet and then fall again like meteors from the sky, we should still be living on the ground in low, sprawling structures that would require a whole state to house the people of one of our large cities. It is the elevator that has made it possible to erect million dollar buildings on seventy-foot plots of land, and has caused our cities to expand vertically instead of horizontally.

The first American elevator was built by George H. Fox in 1850. It was operated by means of a vertical screw, the butt carrying the cage. But the "father of the elevator" is Elisha G. Otis, who, three years later,

exhibited an improved invention at the World's Fair in the Crystal Palace in New York. Otis was a Vermont farm boy, whose Yankee inventiveness had first led him to improve agricultural machinery. He became a successful carriage builder. His chief claim to fame is the elevator. It was invented by him at the age of forty-two. The year 1871 saw the first hydraulic elevator. It held the field jointly with the steam elevator, until the electric elevator came into use about 1888. It plays no small part in the development of our civilization.

American Genius Develops Photography—the Kodak

HE modern camera is an American development. Through this adaptation of an earlier invention, the earth has been brought before our eyes, the faces of the peoples of all nations are preserved for the generations. It is one of the greatest factors in our modern life. To-day we can sit among our photographs and look at the world's events.

Photography began with Giambattista della Porta, an Italian philosopher, in the latter half of the Sixteenth Century. A German, J. H. Schultze, in 1727, has become known as the "Columbus of photography," and obtained the first actual photographic copies of writing. Various experiments were made with chloride of silver, but little progress was made until, in 1814, Joseph Niepce, a Frenchman, succeeded in producing permanent pictures by a process which he called heliography. Another Frenchman, Daguerre, in 1832, invented the famous process, called "daguerrotype," which consisted in exposing a metal plate covered with silver solution. Subsequently, he developed in a darkened room the impression, which was rendered permanent by special chemical treatment.

But the first actual photograph ever taken was by an American, John W. Draper, in 1840. Up to that time metal alone had been employed in photography but, about 1850, sensitized paper began to be used, and the era of modern photography commenced. Since then that art has been perfected in various ways, and it has become intimately connected with many

sciences, especially physiology and astronomy.

The important American development is the "kodak" or hand camera, which first appeared in 1888. That which led the way to the introduction of the kodak and the displacement of glass plates as a necessity in photography, was the invention of the "film." This arrangement made daylight photography and practically revolutionized the art. The kodak has popularized photography. The instrument is capable of instantaneous, time exposure, landscape, portraiture, flash light, and panorama work. The kodak has played an important part in illustrating war scenes. It was used in the war in Cuba, in South Africa, in the Philippines, in Corea

and Manchuria. One of the great weeklies reports that ninety per cent. of the war pictures were upon films.

American Genius Solves Problem of Aerial Navigation

AN'S conquest of the air practically dates from the year 1908. It was in that year that man stepped forth, as though from a chrysalis, with full-grown wings. It was then that he slipped those fetters which had bound his feet to the earth for countless ages, so that now he can consort with the feathered creatures of the heavens; or he can sport with the condor and the eagle in their mountain-top aeries—the beginning of the aerial age. For long ages flight had been a dream. The philosophers said that it could never be accomplished, but it seethed in the brain of certain adventurous inventors, and at last it has come.

It remained for American genius to discover the fallacy of the Newtonian law, and, after he succeeded in disproving it under actual experiments, it was only a question of a few years when the heavier than air flying-machine should become a realized dream. That man was the late Professor Samuel Langley, of the Smithsonian Institute. He learned by actual experiments how much horse-power was needed to sustain a surface of given weight by means of its motion through the air. To accomplish this, he erected a huge whirling table in the open air at Allegheny, Pennsylvania, driven by a steam-engine. The outer end of its revolving arm swept through a circumference of 200 feet and could be made to travel as fast as seventy miles an hour. It soon was discovered that the faster a thing traveled, the less weight was required to sustain it. brass plate weighing a pound at least was found to weigh only an ounce when carried by a fast motion, and, the faster the table whirled, the less power it took to make the plate move. On the basis of this discovery, Professor Langley constructed his aeroplane, whose practicability has since been demonstrated.

The real conquerors of the air were the two American brothers, Orville and Wilbur Wright. Just after the death of Otto Lilienthal, the German experimenter, who only partially succeeded in building a heavier-than-air machine that would float, these two Americans, then manufacturers of bicycles, began to experiment in 1898. Five years afterward, the birds fluttering around the sand dunes near Kitty Hawk, North Carolina, were startled when a machine flew from the ground, and a throbbing motor carried the aviator a few hundred feet through the air. The next years they spent in perfecting their machine, and the world was astonished to learn that Orville Wright had made a successful flight, in 1908, remaining in the air one hour and fourteen minutes. That was the beginning

of the successful aeroplane. What Langley, Lilienthal, Sir George Cayley, Sir Hiram Maxim, Francis Wenham, Chanute, Pilcher, and scores of others had spent fortunes, and in some cases their lives, to achieve, these two Americans brought to success, and their names will stand in history as the pioneers.

There are thousands of other great American inventors, less epochmaking perhaps than those briefly described above, but of great importance. The inventions in metallurgy have added billions to the value of the world's mines. American iron is the cheapest in the world, for nowhere else can a ton of iron ore be taken from the mines and be converted

into finished steel with such complete facilities.

Man's progress has been marked by continual revelations, by constant discoveries—each of which opens a new world of human life and practically reconstructs the earth. So it will continue throughout the ages, picking up the links of an endless chain that leads us toward eternity. Life is neither incident nor accident—it is the eternal law as positively fixed in its course as the law of night and day. "We sleep," as Henry Ward Beecher said, "but the loom of life never stops; and the pattern which was weaving when the sun went down is weaving when it comes up to-morrow." And likewise, as Leigh Hunt suggested, "there are two worlds; the world that we can measure with line and rule, and the world that we feel with our hearts and imaginations."

The scientist is the great emissary to the world of unrevealed realities; he journeys into the seas and skies or into the bowels of the earth and returns with the treasures that were locked in the universe. There is no miracle about it—the miracle is that we do not find these hidden forces sooner and learn to utilize them.

America is a land of incalculable resources, and therefore it is a land of many great scientific discoveries. Moreover, its political liberation brings about a similar freedom in the domain of science which throws open the whole field of discovery to the whole people and consequently results in larger and more frequent revelations. Democracy in government means democracy in scientific discovery and invention. Equal opportunities to all are not confined to political opportunities, but extend to the whole realm of human activities; the universe becomes every man's dominion by inheritance.



STATE CAPITOL AT FRANKFORT, KENTUCKY—This State has an area of 40.598 square miles (nearly equal to Scotland and Belgium combined)—Its population is 2,289,905 (nearly equal to Norway)—Admitted to the Union in 1792



STATE CAPITOL AT NASHVILLE, TENNESSEE. This State has an area of 42,022 square miles (larger than Switzerland and Denmark combined). Its population is 2,184,789 (about equal to Republic of Cuba)—Admitted in 1796.



AMERICAN GENIUS SEVERS THE CONTINENTS—This is a glimpse of the Panama Canal, connecting Atlantic and Pacific Oceans—a triumph in modern engineering—This canal changes course of much of world's commerce—It has cost about \$375,000,000.





FIRST SHIPS TO PASS THROUGH PANAMA CANAL—The ship on the left is the first commercial steamer to pass through the locks—On the right we see the first battleship passing through the canal—The canal was formally opened in 1915.

PART III CHAPTER VI

AMERICAN TRIUMPHS OF ENGINEERING

All the means of action—
The shapeless mass, the materials—
Lie everywhere about us, what we need
Is the celestial fire to change the flint
Into transparent crystal, bright and clear
That fire is genius!

-Longfellow.

IVILIZATION has been created largely by the hands of men. It is a plastic substance that is molded by the fingers into images and structures that typify their ideals and ideas. It is the concrete expression of soul and intellect. Great achievements—the handiwork which each generation leaves behind it—are the truest indexes to the status of their civilization.

The Americans are a constructive—not a destructive people. Not only has their inventive genius brought forth many epoch-making creations, but their conquest of material obstacles is surpassed by that of no other race. No achievement is too great for them to undertake; no difficulty seems to hold them dismayed; they do not hesitate to attempt to remove the "impossible" and transmute it into the "possible." Thus they bridge rivers, undermine or tunnel mountains, sever continents, and make the arid desert fertile by the indomitability of modern engineering.

The greatest of all American achievements is the Panama Canal, the greatest of all the engineering conquests in the annals of man; a perpetual memorial to the American courage and genius that triumphed where all other nations feared to tread and where one, the most resourceful of all, had gone down in defeat. Here, the Americans by might and will severed the Western Hemisphere into two continents; by the magic of American skill and courage the waters of the two greatest oceans were to rush together into perpetual wedlock. It is a new milestone in the march of civilization. It was a day of triumph—October 10th, 1913—when President Woodrow Wilson, seated in our national capitol at Washington, pressed a button which hurled an electric impulse from the shores of the Potomac to the mighty Gamboa Dike, 2,000 miles away, and released the furious power of 40 tons of dynamite which hurled the barrier heavenward in scattering clouds of earth and rock and leveled the last

barrier at Panama which held apart the surging waters of the Orient and the Occident.

This awe-inspiring spectacle marked the culmination of nine years of herculean labor. Its thundering tones echoed around the world to announce the practical completion of the most colossal wonder of human creation. It proclaimed that the Americans are the greatest miracle workers of all time, and it placed the name of its chief builder, Colonel George Washington Goethals, a native of Brooklyn, New York, among those of the immortals. With his name, too, will be inscribed that of his fellow miracle worker, Colonel William Crawford Gorgas, the Alabamian who drew the deadly disease fangs from the tropics so that the workmen from

the north could exist in the jungles where they labored.

This mighty achievement has been the dream of four centuries. Two decades after Columbus landed on Watling's Island in the New World, Balboa, having discovered the Pacific, dreamed of a strait which would lead from the Atlantic to the Sea of Cathay. Then came in 1520, Angel Savedra with the startling and visionary proposal to pierce the Isthmus of Darien. But when Antonio Galvao proposed thirty years later that a canal be cut through the Isthmus of Panama, he brought upon his head the wrath of the Spanish king, who then and there declared an embargo upon such ideas under the penalty of death. It is said that the reason was political. However, Spain had reconsidered its edict by the year 1821 and was about to begin the task when Latin America revolted and drove the Castilians from the Isthmus.

The tropical Isthmus of Panama had long defied the world. It drank the life blood of thousands of laborers under De Lesseps, the French engineer, and it swallowed up more than \$260,000,000 in money and machinery. It was in the epochal year of 1904 that a courageous band of American engineers swarmed down from the north to perform the miracle of cutting the Western Hemisphere into two continents. Armed with huge steam shovels and steam dredges, electric and compressed air drills, sticks of dynamite and powerful cranes, carrying enormous tanks of oil and petroleum to battle with the deadly mosquito which virtually had defeated the French canal diggers, they began the long conquest of nature and the elements.

A pæan of industry came up from the tropics, drowning out the cries of scoffers. The full orchestra of shovel and siren, of rendering blasts and crumbling mountains, silenced the criticisms. Under the leadership of the gallant American engineers the workers cleaved the neck of the jungle land and slowly cut their way from ocean to ocean. Two years before the fondest dreams had predicted, there lay in the words of Hudson Maxim:

AMERICAN TRIUMPHS OF ENGINEERING

"An ocean-way that cuts in twain a continent,
Hewn through the mountain's primal rock,
And through the shifting shale, the mire and mud
And fickle sand of marsh and swamp and plain;
That lifts and bears the burdens
That the oceans bear in giant ships—
A half the freighted commerce of the world."

So it is that to-day the mighty Panama Canal changes the tide of commerce. It lessens the journey between the Orient and North American ports by thousands of miles. It brings San Francisco nearer to New York by 7,873 miles; Yokahoma by 3,768; Shanghai by 1,876 miles; Valparaiso by 3,747 miles, and Melbourne in Australia by 2,770 miles. This mighty transformation brings San Francisco and other Pacific ports 7,000 miles nearer to Liverpool and Hamburg. It takes a vessel twelve hours to pass from the Atlantic to the Pacific through the canal, a journey of about fifty miles. About fifteen of these lead through that part of the canal which lies at sea-level, and the remaining distance through Gatun Lake, Miraflores Basin and the three sets of locks at about eighty feet above the surface of the oceans.

A ship following in the course of the setting sun approaches through the Gulf of Mexico. Skirting a huge two-mile break-water which guards the entrance of the Canal, it enters a channel 500 feet wide and 41 feet deep. Scudding through Limon Bay, past the red-tiled roofs of ancient Colon, on the left, the ship heads direct through a low-lying garden of tropical verdure lying on either shore. At the end of five miles appear the mighty walls of Gatun locks, the most stupendous concrete structure ever created.

This is the first of the series of locks which lift the heaviest ship afloat up into the great Gatun Lake. Its portals are guarded by massive steel doors seven feet thick, sixty-five feet wide, eighty-two feet high and weighing nearly six hundred tons each; yet they are balanced with such exquisite nicety that one of them could be moved by a hand thrust. Tremendous air-cushions help the mighty gates to hold back the tons upon tons of water held within the locks.

The gates swing open. The ship passes within and is hidden from sight. The massive doors close again. While you are waiting for the inflowing water to raise you to the level of the floor of the second section of the locks, look about you upon the massive walls. It is a huge basin of concrete, 1,000 feet long and 110 feet wide in the clear. Beyond the huge wall of concrete, on your left, is an exact duplicate of this basin. This dividing wall is sixty feet thick, and built into it at the top is the titanic machinery which operates the locks. Further on in your journey you will

see the man-made Niagara which supplies the power in the form of electricity. Beneath the keel of your ship is the floor of the basin, made of concrete and as enduring as a mountain.

The ship begins to move. You look up in amazement. The doors of the second section of the locks are swinging open. Your vessel, probably weighing 30,000 tons, has been magically raised twenty-eight feet while you were gazing in awe at the stupendous work of your fellow-Americans. The miracle has been performed—simply by allowing water to flow into the basin. The second, and the third lock section is a duplicate of the first except that the doors are slightly shorter and consequently weigh several tons less.

What is this that greets your vision? Your ship has been pulled by a powerful electric locomotive running along the concrete wall. At this instant it sails out under its own steam into the 170 square miles of Gatun Lake. Here on your left, looms a great artificial hill—it is the gigantic Gatun Dam. The waters of the lakes are being passed off through a huge spill-way and into turbine engines which create the power to operate the machinery of the entire Panama Canal. This mighty dam stretches for one and two-thirds miles, looming thirty feet above the normal level of the lake, and is one hundred feet wide, except for a distance of one thousand nine hundred feet which is three hundred and seventy-five feet wide. About 140,000 cubic feet of water flow over the spill-way every second.

The lake itself, nestling under the green carpeted slopes of the surrounding mountains, is large enough to accommodate the entire United States Naval fleet. Through this great inland sea, your ship will speed under its own steam for a distance of thirty-two miles until it reaches the closed doors of a single lock, the Pedro Miguel, which will lower the vessel a distance of thirty feet into Miraflores Basin. A short distance beyond, the ship enters the first of the two Miraflores locks and is lowered twenty-seven feet into the second lock which also lowers it another twenty-seven feet. Then the mighty steel doors are flung open. The ship is free to fly down the five-mile avenue leading into Panama Bay—and out into the waters of the Pacific Ocean.

It required at one time 40,000 men employed in building the Panama Canal. Fifty-eight hundred men were employed in building the locks alone, and more than 57,000 tons of steel went into the manufacture of the lock doors. The huge Gatun locks consumed 2,000,000 barrels of cement—and 5,000,000 barrels were used in constructing all the locks and dams. Six million rivets were driven in the construction work, while 212,514,138 cubic yards of earth, rock, mud and shale were dug out to make way for the new highway of commerce and travel.



GREAT SOUNDS OF THE PACIFIC—This is a view of Puget Sound, on which Tacoma, "The City of Destiny," is located in the State of Washington—In the distance rises snow-capped Mount Rainier to the height of 14,408 feet.



CANAL OF THE GREAT LAKES—Sault Sainte Marie Canal which connects Lake Superior with Lake Huron—It is but 1½ miles in length and its volume of traffic exceeds that of any other canal in the world—Its tonnage exceeds 18,000,000 per year.



FAMOUS AMERICAN INVENTORS—This photograph presents one of the most historic occasions in the development of the American Nation—It is the first meeting of the Naval Advisory Board of Inventions in October, 1915—The Board was selected to provide plans for national defense.



PLEDGE THEIR GENIUS TO THEIR COUNTRY—Here we see the genius of American industry offering its services to the nation during the World Crisis in 1915—At the desk sit Thomas A. Edison and Josephus Daniels, Secretary of the Navy—The board consists of twenty-three members.



GIGANTIC BRIDGES AT AMERICA'S METROPOLIS—Brooklyn Bridge, 7,580 feet long; cost about \$24,000,000—Manhattan Bridge, 6,855 feet long, cost about \$26,000,000—Williamsburg Bridge, 7,308 feet long, cost over \$23,000,000, Queensboro Bridge, 7,449 feet long, cost about \$18,000,000.



GREAT STEEL ARCHED BRIDGE OVER THE MISSISSIPPI—This is Eads Bridge at St. Louis, Missouri—It was begun in 1867 and finished in 1874—Over 600 men were prostrated during the work and 13 died—Its cost was about \$6,500,000.

The Panama Canal cost not more than the sum estimated at the beginning of the work—\$375,000,000. It is a sum greater than Spain, Japan and Sweden had in stocks of gold in the year that it was opened. It is a sum over seventy thousand times greater than that required by Columbus to discover the Western Hemisphere. And yet it is only about the estimated wealth of a single American in these days of stupendous fortunes. Moreover, a new Panama Canal could be built every twelve months with the money consumed by fire and in fighting flames every year in this country. These are days of colossal figures and tremendous achievement.

Americans Build the World's Greatest Dams

MERICA leads the world in great hydraulic engineering achievements. American dam builders erect monstrous bulwarks of granite and concrete,—mighty walls ranging across rivers two miles wide, to flood arid lands, or to store up water for a thirsting city, or to create titanic power with which to turn his industrial wheels, light and heat his homes.

The world's longest dam curbs the mighty Mississippi where it flows through the heart of our nation. It is a bulwark of adamant, completed in 1913, a worthy foe for the Father of Waters. This part of the Mississippi, because of the Des Moines Rapids, was one of the most dangerous for navigators. Our Government has spent \$8,000,000 to build a canal that would subdue the rapids, but in vain. To-day our great dam, stretching between Keokuk, in Iowa, to the opposite shore, not only floods these rapids with sufficient water to cover their jagged spurs, but it backs up the river for a distance of sixty-five miles, thus forming a great inland sea and generating about 300,000 horse-power of electricity with which to light and heat, run the cars and turn the factory wheels of cities lying within one hundred and fifty miles of the lighting plant. It is the longest in the world—nearly two miles long. The power-house alone, built into the dam itself, is more than a third of a mile long.

The highest dam in the world is in Wyoming. The Shoshone is 325 feet high, or just half as high as the tallest office building in the world. The modern dam builders are men of great daring. They must have the qualities of pioneers. They frequently find themselves in the heart of primeval Nature, almost cut off from civilization, and must blaze their own wagon roads for the transportation of supplies and materials. That is what they did when they built the great Shoshone dam. The road ran for eight miles and in many places tunneled through the granite-ribbed mountains. But the greatest problem was the torrent of water plunging through

the gorge they intended to dam. Its sheer sides towered 2,500 feet above the river and were only sixty feet apart. The river dashed through the gorge like a mill-race, but the engineers captured and led it through a temporary channel above the gorge. Then in the dry river bed they excavated a ditch eighty-seven feet deep and one hundred and eight feet wide in which to lay the foundations of the dam in solid rock. On this foundation they piled the dam proper until its top reached two hundred and thirty-eight feet above the bed of the river. It was a stupendous task and consumed four years' of time, 90,000 tons of granite and 75,000 barrels of cement.

The mighty Roosevelt Dam, in the Salt River Canyon, in Arizona, rears a bulwark of granite 276 feet high. It is a romance of civilization and will stand as an enduring memorial to the united efforts of white men and the Geronimo Indians, who built it. Like the Shoshone, it lay in the heart of a wilderness, but it was sixty miles from the nearest railroad, and this space of primeval forest and mountains had to be covered with a wagon road. Behind the dam to-day is a huge lake covering 16,329 acres. If the water were let out, it would cover an area greater than the State of Rhode Island a foot deep. Beneath its waters lie the remains of the little town of Roosevelt, which at some future day archæologists may discover and learnedly speculate upon its fate.

For many years Colorado had the highest dam in the world; that was the Cheesman, which blocks the south fork of the South Platte River. Behind its 225 foot granite wall lie thirty billion gallons of water, enough to quench the thirsts of all Americans for a year, allowing a gallon a day for each person. In the Catskill Mountains, in New York, there is another great reservoir of water, equal in capacity to Colorado's great storage supply. It is the Croton, which is the second highest in America, being 297 feet high. Boston gets a great part of its water from the famous Wachusett Reservoir, whose dam is 207 feet high, which is equal to the

average sixteen story skyscraping building.

These great engineering feats prove man's control over nature. Whenever the necessity has arisen, he has curbed it; and when he needed its power, he harnessed it. The dam indeed, stands as a colossal monument to man's subjugation of nature to his requirements. It is one of the proudest trophies of our civilization and through it we have to-day our great public water supplies. Christopher Christiansen, of Bethlehem, Pennsylvania, began to construct, in 1754, what was to be the first public water works in America. Water was conveyed by pipes from springs to a cistern 350 feet away. A wooden pump forced the water from this to a wooden tank in the town square. In the year that George Washington died

there were sixteen public water plants in the United States. The development of the system grew quickly. Streams were dammed to form reservoirs to take the place of springs. Instead of the wooden pipes, metal ones were used. When Philadelphia fitted her water system with cast iron piping, in 1804, she attained the distinction of being the first city in the world with such equipment. London adopted it in 1820. The idea grew rapidly. Larger and larger reservoirs were built. The areas which they drained became greater. The size of the conveying pipes was increased, till finally the building of water works became one of the most important branches of civil engineering.

Americans Conquer the Power of Water-Great Reservoirs

MERICAN cities to-day all have modern water works or artesian wells. The Wachusett Reservoir in Boston, contains sixty-three billion gallons of water, and supplies that city. The city of San Francisco gets its water from the San Mateo Reservoir, which holds thirtyone billion gallons. New York depended for years upon the Croton Reservoir, with a capacity of thirty-one billion gallons, until it was decided to construct near Kingston, at a distance of over seventy-five miles from New York City, the Ashokan Dam to hold back one hundred and twenty billion gallons of water. Five hundred million gallons will daily flow through a gigantic aqueduct that is built cross-country, over mountains and under the Hudson River, to bring water into the homes of the metropolis of the Western Continent. This stupendous system will cost \$200,000,000. The water will have pressure enough behind it to flow up to the twentyfourth floor of the skyscrapers. The deepest well in the world used for obtaining water is located at Putnam Heights, Windham County, Connecticut. It goes down 3,848 feet and gives a supply of two gallons of water each minute, shooting the water four feet above the level of the ground. These deep wells are known as artesian wells, a name derived from Artois, where they were first used. Brooklyn obtains 78,000,000 gallons of water each day through artesian wells and many other towns fare almost as well. The city of Buffalo, New York, supplies each inhabitant an average of two hundred and thirty gallons of water a day; in Pittsburg the average is two hundred and fifty gallons.

Human life depends upon water, food, and air. Air we get without trouble; food we get with a little more exertion; but water we get through elaborate systems. Yet we must have them—for no city would be safe without water more than sixty days. Great fortunes are being made in selling water. Big corporations have gone into the business, and millions of dollars are invested in water companies. So great has become the in-

dustry of supplying water that many cities have started their own reservoirs, and one of the most frequently discussed phases of American politics is the municipal ownership of water plants—a problem that sooner or later must be settled in every town in the United States.

The creation of power is one of the genii of American civilization. In the early years we took it out of the winds; then we took it out of the rivers; in later days we have been digging it out of the earth in the little black nuggets that we call "coal." Through this, we have created steam, gas, and electric power for our machinery and our domestic appliances. But in about five hundred years the world will be without coal—then what shall we do? Strange to say we shall not even miss it. For we have already found a substitute that is inexhaustible—water. There is power enough in our rivers and lakes to keep the world going for ages. This wonderful chapter in the long story of man's conquest of Nature is just beginning. We are setting water to work for us; we are turning its energy into power that we can use in a thousand ways for thousands of years. With this power we can generate electricity; and thereby we can do all that we have been doing by means of coal, and many new things that the minds of men will conceive.

The rivers of the United States, great and small, threading their way everywhere through the land, contain a hidden force alone equal to about twenty-five million horse power. When we say "horse power," we assume that one horse can raise 33,000 pounds one foot per minute. Now, ten million such horses could run all the manufacturing establishments in the United States. Water power, in order of use, must be concentrated by violent motion. Nature provides this process in one of the most notable instances in Niagara Falls. The idea of "harnessing Niagara" is startling at first—it sounds almost sacrilegious. A protest arose when it was suggested that its waters be utilized for commercial purposes. The vision evoked of a Niagara run dry astounded the Americans. It is exactly what is said to have been foretold ages ago by an Indian—that one day the waters would vanish and expose the bare shelf of rock to view. That day of desecration has come.

The power of Niagara is almost beyond comprehension. It pours over the falls twenty-five million tons of water every hour. This power would be sufficient to run all the trains in the country, light all the towns and villages, conduct our telephone and telegraph service, turn all our spinning wheels, and operate our three greatest industries—all at the same time. The power of Niagara is equal to the power that can be generated from all the coal taken from our mines in a day,—the power of seven million, five hundred thousand horses. By agreement between the United



STATE CAPITOL AT RALEIGH, NORTH CAROLINA—This State has an area of 52,426 square miles (nearly equal to Netherlands and Liberia combined)—Its population is 2.206,287 (larger than Republic of Cuba)—Original State, 1789.



STATE CAPITOL AT COLUMBIA, SOUTH CAROLINA—This State has an area of 30,989 square miles (larger than Scotland)—Its population is 1,515,400 (about equal to the Republic of Ecuador)—Original State admitted in 1788.



STATE CAPITOL AT ATLANTA, GEORGIA—This State has an area of 59,265 square miles (larger than England and Wales)—Its population is 2,609,121 (larger than the Kingdom of Norway)—Original State in 1788.



STATE CAPITOL AT TALLAHASSEE, FLORIDA—This State has an area of 58,666 square miles (larger than England and Wales)—Its population is 751,139 (larger than South Australia)—Admitted to the Union in 1845.

States and Canada, the amount of water to be diverted from Niagara has been limited to fifty-six thousand cubic feet a second. This, without diminishing appreciably the flow of the cataract, will provide power equal to that of fourteen million tons of coal, which it requires thirty thousand

miners, working for a year, to take out.

The idea of "harnessing Niagara" is one of the most astounding in the annals of man, -because it is the solution of the great problem of the future. It was on October 4th, 1890, that the work began. The first step was to excavate a tunnel two hundred feet below the city of Niagara Falls. The tunnel is 7,481 feet long; the interior dimensions are twentyone feet by eighteen and a half feet. It required the excavating of three hundred thousand tons of rock. Sixteen million bricks were used in the lining. The water is taken through a canal, screened to exclude floating ice and debris, to the generating station. The electrical energy here generated is transmitted to a distributing station. From this station immense cables convey the power to various points.

Imagine, as you gaze at the majestic waterfall rushing in its eternal course, that its power-its very spirit, as it were-is lighting the lamps and moving the street cars one hundred and sixty miles away in Syracuse. Around the Falls, on both the Canadian and American sides, a large manufacturing district has sprung up, evoked by the magic power of these waters. Niagara's power is applied to-day to everything, from great steel shops and trolley cars to ventilating fans and sewing machines. The modern electric furnace has been evolved out of the water power of Niagara Falls. this way, its power is making itself felt all over the land, and to the ends of the earth, with a vastness and complexity of operation that is bewildering.

All over the country great rivers have been harnessed; their mighty force is being gathered in power plants and distributed for the needs of industry and agriculture. The water power in actual service in the United States is now doing the work every year of thirty-three million tons. Its possibilities are vastly increased by the introduction of long distance transmission of electricity. You need not move to the power-plant-it

stretches out its arms to you.

Americans Triumph Over the Desert-Irrigation

AN is indeed the conqueror. One of the greatest of all his conquests is the triumph over the deserts. Through the power of his brain and brawn, he has brought to fulfilment the prophecy of ancient times that the "wilderness shall blossom as the rose." This is no longer a figure of speech.

It is only a few years since two-fifths of our territory was in the hands of an enemy—not more than ten years—this enemy was drought—and the weapon with which he is being beaten back, inch by inch, is irrigation. Vast regions, extending over the length and breadth of our Western States, were but waste and unproductive lands, owing to the scarcity of water. This lost empire is being reclaimed. It was in 1902 that a gigantic scheme was set on foot by the Government for irrigating these arid regions. A start was made with twenty-five projects, involving in the aggregate over two and a half million acres. Then began the construction of those magnificent works of engineering that stand as perpetual memorials of American skill and enterprise. One thought must have thrilled the engineer, as he saw the giant structure growing under his hands—what it meant to the surrounding land; life instead of death, fecundity in place of sterility, a panorama of fruitful fields and waving trees replacing arid wastes.

What would be the feelings of a modern Rip Van Winkle, who had fallen asleep in the "Great American Desert" a dozen years ago, if he were to wake to-day? He would behold a transformation appearing miraculous. Where had been a dreary expanse of arid plain, stretching bare and treeless to the horizon, he would behold fields of waving grain, countless fruit-trees laden with their luscious burden, with prosperous farm homes and villages lining silvery canals. In the region of the Truckee River, in Nevada, was a lifeless desert, strewn with the bones of animals and marked by the graves of countless emigrants, who, on their long and toilsome journey to the Pacific, had perished of thirst. It is now a region of smiling fields, with prosperous cities springing up among them. Four rivers have been linked together in a wonderful scheme of irrigation, and their waters spread themselves through all this land.

The waterless valleys of California, through which the weary gold hunters of '49 struggled, many to drop and die of thirst almost in sight of their goal, have become fair vineyards and orchards and gardens, whose products find their way, not only to New York, but to far distant London and Paris. Think of what has been done in the Yakima Valley, in the State of Washington, where a territory of 350,000 acres has been reclaimed by the waters of the great Sunnyside canal. Or in the Shoshone Valley, where a territory of 476,000 acres is watered to a depth of one foot. On the "Great American Desert" in Kansas, a few years ago, as far as the eye could reach, there was nothing but a dreary expanse of flat, treeless prairie; there was hardly any rain; hot winds swept the country. But it was found that there was an abundance of water under ground. Wells were sunk, and the water was pumped into reservoirs by means of windmills. Monster

crops are grown and the yield of the fruit trees is prodigious. Trees,

indeed, grow on all sides, where trees never grew before.

This great work of reclamation has made substantial progress. Two-thirds of the first scheme of twenty-five projects is completed, at a cost of nearly \$80,000,000. When it is finished, it is proposed to start on thirteen further projects, dealing with over three and a half million acres. But, in addition, 7,000,000 acres have already been put under water by private enterprises. It is hoped to reclaim in time at least 30,000,000 acres. This would give an eighty acre farm to each of 375,000 persons. The irrigation scheme has greatly affected the population of the districts in question. Hundreds of towns have arisen. More than 800,000 farms are now under irrigation.

It is inspiring to think what this blessing of irrigation means to the country. A million new and prosperous American homes; the relief of the congestion of the cities; billions added to the wealth of the nation. This is what the magic of irrigation has done and is doing, and it promises still

greater surprises for the future.

Americans Bridge the Rivers and Mountain Passes

HE bridging of mighty rivers is another triumph of modern civilization. A half century ago, monster bridges did not—could not, exist. To-day 1,000-foot steel and iron spans demand elaborate calculations of the mathematician, the best skill of the chemist and metallurgist, the keen judgment of the engineer, the vast resources of the financier, and the mighty strength of powerful engines and the weird ingenuity of marvelous machine-tools directed by trained mechanics. Not the least requisite is the physical and moral courage of the bridge-builder.

In this generation you will find American bridges in all parts of the world. They span deep rivers, lakes, harbors and ravines. They weld cities and states, cross international boundary lines, create and increase commerce and level its barriers, modify despotic political power, ameliorate social conditions, multiply property value many fold, and save thousands of lives. Long steel spans are built to sustain without a tremor the weight of a plunging express train as it dashes across a wide river or deep chasm. This type of bridge dates from about the beginning of our American Civil War.

The pioneer structure in modern bridge building is the bridge which was thrust across the Mississippi flood at St. Louis, by James B. Eades, without for an instant interrupting the heavy river traffic, and before the science of estimating weights and pressures as they relate to bridges was fully understood.

The first Niagara bridge was the first railway suspension bridge in the world; it was built in 1853 by John A. Roebling, when the world's greatest engineers were declaring that it was impossible to span the Niagara. Erecting two mighty masonry towers on opposite banks, Roebling slung four huge steel cables across and from these suspended a roadway and a railroad track two hundred and forty feet above the rapids. When the slender wire threads of the cables threatened to give out, a new bridge was projected, and this was the most marvelous feat of all. The new structure, a steel arch bridge with its arches resting on either shore, was actually built without disturbing traffic for more than a few minutes at a time and when completed had been built around the old bridge.

When you voyage up the historic and picturesque Hudson River, you pass under the famous cantalever railroad bridge at Poughkeepsie, built in 1889. To erect the five mighty spans of this structure, the engineers built five tiers of staging on the surface of the river, which when completed appeared like a modern skyscraper before its dress of brick and stone is

applied.

Crossing the Missouri River, at Omaha, is the world's greatest draw bridge with a single span of five hundred and twenty feet, while the longest fixed span of the type known as truss span reaches across the Ohio River at Louisville.

Out in the Rocky Mountains, where our American bridge builders have performed some of their most magical work, is the highest bridge in the world. The floor of the roadway is made of glass so that the tourist may look down to the seething waters 2,627 feet below. This is the bridge in Colorado which crosses the beautiful Royal Gorge.

In the heart of the city of Chicago are several bridges, which at the approach of a steamer along the Chicago River, quickly rise, just as the feudal baron's drawbridge did before his castle. These are known as the "rolling lift" bridge. Though these huge spans weigh sometimes as much as 5,000,000 pounds each they literally raise themselves to an upright position in less than a minute—it requires powerful machinery to pull them

down again to form the bridge across the river.

Even historic Albemarle Sound, in North Carolina, has been bridged. Here a railroad span runs for five continuous miles across the water between Edenton and Mackey's Ferry. What the North Carolinians have done, Californians are planning to repeat. They are planning to join the cities of San Francisco and Oakland with a monster bridge over San Francisco Bay, to be nearly nine miles long. Anywhere you travel throughout our land you will find the magic structures of the bridge builders. They are made of iron or steel or of concrete. The largest of the concrete structures



STATE CAPITOL AT JACKSON, MISSISSIPPI—This State has an area of 46,865 square miles (larger than Republic of Cuba)—Its population is 1,797.114 (larger than Porto Rico, Hawaii, and Costa Rica combined)—Admitted in 1817.



STATE CAPITOL AT MONTGOMERY, ALABAMA—This State has an area of 51,998 square miles (larger than Republic of Nicaragua)—Its population is 2,138,093 (larger than Republic of Cuba)—Admitted to the Union in 1819.



STATE CAPITOL AT ST. PAUL, MINNESOTA—This State has an area of 84,682 square miles (about equal to Greece and Ireland combined)—Its population is 2,075,708 (nearly equal to Norway)—Admitted in 1858.



STATE CAPITOL AT DES MOINES, IOWA—This State has an area of 56,147 square miles (nearly equal to Greece and European Turkey)—Its population is 2,224,771 (nearly equal to Republic of Bolivia)—Admitted in 1846.

in the world is that which our Government built in the National Capitol at a cost of \$850,000; it is known as the Connecticut Avenue bridge and is

fifteen hundred feet in length.

No other city in the United States has such tremendous bridges as span the rivers about New York City. Here still stands the famous old Brooklyn Bridge, which John Roebling completed in the year 1883, now accompanied by three other larger bridges. It has been a faithful servant to the cities it joins. When the bridge was twenty years old it was found that fifteen times as many people passed over it daily than when it was first erected. What it means to the cities is revealed in the fact in the year 1904 more people passed from shore to shore than live in the whole United Statesabout 30,000,000 more. That meant a traffic for the year of about 120,000,000. In a single day more people passed over it than live in the State of Vermont, or in Lisbon. At one period of the day 54,000 people crossed it in an hour's time. For many years this was the world's greatest suspension bridge. To-day four great structures stretch across the rivers connecting New York. The Queen's Bridge is, with its approaches, about three miles long and hangs one hundred and forty feet above the water; it cost about \$20,000,000.

Americans Tunnel Under Cities, Rivers and Mountains

HE titanic achievements wrought by American engineers culminate with the tunnel builders—piercing the hearts of mountain ranges, or delving beneath swollen floods, driving shafts through mountain or river so that an hour or a few miles may be taken from the time schedule of some transcontinental railroad.

Modern mountain tunneling can be said to date from the year 1856. It was in that year that a courageous band of engineers and tunnel workers pitted their strength and wits against the southern spur of the Green Mountains in Western Massachusetts. To their aid they brought, for the first time in America, electricity, nitro-glycerine, air compression, and power rock drills. They divided into four armies, two starting on either side of the mountain and two more digging down from the top in the center of the ridge. Sixteen years later, the last smoke of the battle cleared away, and a yawning hole nearly five miles long led through the solid rock. It was about twenty feet high and wide enough to permit the laying of two railway tracks. It had been a fierce battle and it had cost nearly \$11,000,000 in money. But it had made possible that great railroad system now running between Massachusetts and Troy, New York, by way of the famous Hoosac Tunnel.

That was the beginning; since then the tunnel builders fearlessly at-

tack the most unpromising project. They have burrowed a tunnel through the mighty Cascade Mountain Range in Northwestern Washington for a distance of about three miles. They have cut through the vitals of the Wasatch Mountains with a series of tunnels whose combined length measures about fifty miles. In Southwestern Colorado, they have tapped the mountains by the famous Gunnison Tunnel, through which a former underground river is made to deliver its precious water to the surrounding valleys. In California the Big Bend Tunnel, two miles long, drains the Feather River. And now they are performing the task of driving America's longest tunnel, six and a quarter miles long, through the backbone of the Continental Divide in Colorado, for the purpose of saving sixty-four miles in the railroad journey across the continent, and twenty-three miles between Denver and Salt Lake City, as well as saving a 2,500-foot climb over the crest of the Rocky Mountains.

The marvelous subterranean railway system of the American metropolis—the tunnels and subways of New York—are the greatest achievements in tunnel building. Nearly a billion people are carried underneath the city every year. There are nearly one hundred miles of track under New York and Brooklyn, and within a few years there will be four times as much more. The pioneer genius of this mighty achievement was the American, John B. MacDonald, and he spent nearly \$75,000,000 in building and equipping the present subway. The new one will cost in the neighborhood of \$300,000,000. Boston has an excellent subway system. And Chicago has a unique underground freight system underlying her business district and covering more than fourteen miles. It is designed to transport merchandise from warehouse to store and from store to the railroad freight stations.

The greatest engineering feat was that which the young Tennessee lawyer, William G. McAdoo, performed when he drove his railroad tubes underneath the Hudson River, thus connecting New York with New Jersey. For eight years he and his engineers and "ground-hogs" pitted their strength against the swollen floods over their heads. Foot by foot, occasionally stopping to plaster up the roof of their tunnel where the river had torn through, they drove by hydraulic pressure a huge steel shield through rock and silt, linking together the great steel rings of the tubes as each two foot section was cleared away. It was a mighty battle, but in the year 1910 the tunnel was complete and the first public train rumbled from the heart of New York to the shore and thence down under the great river and up again to the New Jersey shore.

Like New York, Boston's suburban influx every day overtaxed her ferry service. Consequently, Boston has a tunnel a mile and a half long

reaching from the city proper to East Boston and running beneath a part of Boston Harbor. But one of the most unique tunnel constructions connects the city of Detroit with the Canadian city of Windsor. An American railroad expert, William J. Wilgus, studied the peculiar problems presented by the Detroit River, where nearly as much traffic passes as in the Suez Canal. He conceived the idea of dredging a furrow in the river bed, similar to that which the farmer plows across his field. Then the tunnel tubes were made in sections. These were taken out on floats to their proper positions and lowered into the furrow. Divers then descended and fastened the sections together, while concrete was later poured into the furrow, until the tubes rested in veritable solid rock.

One of the most modern engineering feats is the plan of New York for taking its water from the Catskill Mountains. These mountains lie on the opposite side of the Hudson River. The problem of conducting the water across appeared easy until one far-sighted person suggested the possibility of some foe in the future being able to destroy with a single stick of dynamite any bridge or aqueduct erected. Out of this possibility grew the marvelous tunnel which carries the water underneath the river to the further shore. It lies like a huge syphon, in the form of the letter U, the perpendicular shafts delving through solid rock more than 1,000 feet below the river's surface. Then the lateral shaft, also dug in solid rock, mostly granite, strikes straight across the river to the other side and then upward. On its journey to the distant city the Catskill water travels through four other tunnels whose aggregate length is about fifteen miles, leading under the Rondout, Walkill and Moodna rivers and under Croton Lake.

The art of tunnel building is one of the oldest of engineering sciences. The Egyptians and ancient tribes of India dug them to bury their noble dead. The Assyrians built one under the Euphrates River, by diverting the river through a temporary channel and returning it to its original bed when the tunnel had been bricked in. The greatest engineers of the ancient days were the Romans—while to-day the Americans are performing feats that give them large claims to distinction.

Americans Erect Modern Cities of Granite and Steel

HE Americans have done some wonderful things but their most colossal achievement is the Twentieth Century city—modern towers of Babel. The streets looked like canyons lying deep between the gigantic walls of masonry. The crowds passing through them were like ants in comparison—and yet they had built it with their own hands. We build our massive structures; lightning plays about their towers; the

storms beat against them; the earthquakes rumble beneath them. And if perchance they fall, we throw them up again greater and more daring than before—as if to challenge nature.

When great cities sprung into existence, becoming more and more crowded, a new problem began to develop. Where were all the industries, upon which depended the greatness of these modern cities, to be housed? The builders of the Middle Ages had fashioned lofty church towers only for the sake of beauty. Now it was necessary to raise tall structures because there was no room to spread them over the ground—they must reach up toward the skies, where space is illimitable. Land was becoming very scarce in great cities like New York, Chicago, and Philadelphia. Men saw the only way to build tall structures was to use steel. So, about 1880, a new era was inaugurated-and America became a leader in a new kind of architecture. Huge skeletons of steel were erected, and these supported everything within and without; about them were built the gigantic walls of masonry. These huge buildings were first regarded with doubt but soon they ceased to be an experiment and the new age of the skyscraper was ushered in. The skylines of the cities assumed a majestic ruggedness. Each builder strove to outdo the others. The twenty-story structure was soon overshadowed by the building of thirty stories. Soon came defiant structures of forty and fifty stories. Where the race will end no one dare

The building of the skyscraper is in itself a miracle. It does not take hundreds of years and tens of thousands of men like the pyramids. It does not take decades. It is only a matter of days. Day and night the toil goes on. Drills burrow a hundred feet into the earth to reach bed rock. A battery of derricks is put into place, huge machines that lift tons and tons of steel with no seeming effort. At midnight, when the streets are deserted, mighty steel beams are delivered on ponderous wagons ready to be used by the iron-workers. The gaunt steel skeleton almost leaps into the air. After the erection of every ten stories, the derricks are raised. relentless noise of riveting machines fills the air. By sunlight one gang of men ply their trade; by electric light another gang continues. While the upper stories of the frame-work are put into place, stoneworkers and bricklayers are completing the lower stories. It has been estimated that at times the work goes on at the rate of a story a week. The framework of a large New York building, containing 22,000,000 pounds of steel, was erected in only four hundred hours. To the glory of the contractors be it said that as a rule these colossal buildings are erected with almost no loss of life. The laborers walk and work on narrow steel beams 600 feet and more above the sidewalk.



STATE CAPITOL AT JEFFERSON CITY, MISSOURI—This State has area of 69,420 square miles (larger than Scotland, Ireland, and Hawaii combined)—Population 3,293,335 (larger than Norway and South Australia combined)—Admitted in 1821.



STATE CAPITOL AT LITTLE ROCK, ARKANSAS—This State has an area of 53,335 square miles (larger than Republic of Guatemala)—Its population is 1,574,449 (larger than Ecuador)—Admitted to Union in 1836,



STATE CAPITOL AT AUSTIN, TEXAS—This State has an area of 265,896 square miles (larger than the German Empire in Europe, England and Wales combined)—Its population is 3,896,542 (larger than Switzerland)—Admitted in 1845.



STATE CAPITOL AT BATON ROUGE, LOUISIANA—This State has an area of 48,506 square miles (about equal to Bulgaria and Montenegro)—Its population is 1,656,385 (larger than Republic of Hayti)—Admitted to the Union in 1812.

The highest building in the world is the Woolworth Building in New York, the city of skyscrapers. Its foundations are laid in its lowest subbasement one hundred and twenty feet beneath the sidewalk, and its flag floats 905 feet higher. It towers fifty-five stories high; 46,000,000 pounds of steel were used for its skeleton; 17,000,000 bricks are mortared in its walls, together with 2,500 square feet of cut stone and 7,500 tons of terra cotta. The building contains 1,800,000 square feet of floor tiles and the same area of partition tiles. There are twenty-six elevators, each so made that were it to drop from the top floor it would automatically come to a gentle stop long before it reached the bottom.

The modern skyscraper is a veritable city in itself, containing an actual population greater than that of many flourishing communities. tenant of one of the great office buildings may live in his room year in and year out and still enjoy all the comforts of life. A restaurant on the top floor serves his meals. Downstairs there are stores of all kinds. There are news-stands and even theatres. There are barbers in the basement, and there are tailors and confectioners, doctors and lawyers, brokers and bankers -all trades and occupations within immediate call. Some of the skyscrapers have gymnasiums on the roof. These buildings are inspiring to behold, full of dignified beauty. When we remember that some of the great European Cathedrals took six and seven centuries to build, we will gaze with even greater wonder upon these newer edifices, which spring from the earth in a year.

This record of American achievements might well continue to occupy this entire book and many other volumes, but this rapid survey is sufficient to demonstrate at least the indomitable will, the courage, the daring, and the skill with which the American people attempt gigantic tasks and bring them to brilliant culmination—the triumph of the American spirit.

American Genius Erects World's Greatest Seaports

HE building of great seaports and erecting huge walls to hold out the oceans is one of the daring American achievements. The builder of seaports and their modern accessories is a soldier in the battle against the destructive elements. They erect bulwarks for those cities which are threatened by tidal waves and the like; and carve a way to the sea for those which are barricaded by Nature. After Galveston, Texas, was wiped out in 1900, and at least 6,000 people were killed, the hydraulic engineers walled in the city from the Gulf with a four-mile concrete and granite sea-wall resting upon subterranean piles and planks to prevent the sea from undermining the wall. They lifted the city up out of the path of danger, in some places elevating it as much as seventeen feet.

It required a little more than a year to build this wall, which is a barrier as solid as a mountain, and it stands sixteen feet high and sixteen feet wide at the base, while a boulevard runs the whole length of the wall. It required 13,110 car-loads of sand, crushed granite, cement and timber, and 100,000 tons of granite blocks, some of which weigh a ton each, for the riprap before the wall. Seventeen million tons of sand were poured into Galveston. That is enough to make five pyramids as big as the Egyptian Cheops. You would have to load every human being in Europe with 100 pounds of sand each to carry this away in one trip. The cost was about \$2,000,000. During a hurricane in 1909 this wall held back the Gulf and saved Galveston from suffering another \$18,000,000 property loss. A giant's causeway connecting Galveston with the mainland was erected in 1012 at a cost of \$2,000,000. It is a beautiful structure of concrete and steel, and its low arched bridges resemble those "moles" which the Romans built to enclose their harbors. It is nearly a half mile long, and has a 100-foot lift bridge to permit vessels to enter Galveston Bay. It combines a railroad system, a roadway, and a promenade, and leads to beautiful plazas at either end. Thus Galveston was rescued by American engineers from a debris-strewn sand pit and made over into the third greatest seaport in the United States.

The American who drew the fangs from the mouth of the Mississippi River, and consequently made of New Orleans the second greatest seaport in our nation, is Elmer Lawrence Corthell, one of the world's greatest hydraulic engineers, who has constructed \$100,000,000 worth of seaports and has added a billion dollars to the commerce of the world. He believed, with James B. Eads, that if he could confine the waters of the Mississippi through one of the three mouths between narrow dikes, the river would carry away the alluvial soil that had choked up the pass. He was right, as was proven when the steamship *Vulcan* proudly steamed up Little Southwest Pass on May 12th, 1877, and thence into deep water without having touched bottom. The Mississippi was opened to commerce; New Orleans became a great seaport, Eads' reputation and money were saved, and

Corthell's reputation was made.

The world's greatest seaport, in point of value of commerce, is the natural land-locked harbor of New York. Its water-front is estimated at 748 miles, or a distance equal to that between New York and Cincinnati. It had, in 1912, more than 350 miles of wharves for the world's commerce carriers to unload their cargoes. Nature provided abundantly for this vast fleet of merchant-marine, but there was some room for improvement. One of the most remarkable engineering feats was the making of the Ambrose Channel, which lessens the journey to Europe by six miles. This is cut through a bar in the Lower Bay and is 1,000 feet wide, forty feet deep, and

nearly eight miles long. More than 100,000,000 tons of earth, mud, and sand, an amount equal to a third of that dug from the Panama Canal, was taken out by dredges during the ten years of operations, which cost about \$4,000,000. If that amount of material were dug out for an inland canal fifty feet wide, fifteen feet deep, it would result in a waterway nearly 500 miles long—a distance equal to that between New York and Columbus, Ohio.

Millions of dollars have been poured into New York Harbor for improvements to accommodate its fleet of commerce carriers. Plans were laid in 1912 to spend \$34,000,000 to subdue the treacherous rocks of Hell Gate, so that ocean liners can come into port through Long Island Sound, and to dredge the Hudson River so that 1,000-foot steamships can safely

navigate to their piers.

The world has never witnessed such activity as is now going on among our American seaports. Boston is spending \$12,000,000 to improve her harbor; Baltimore has spent \$6,500,000 since her disastrous fire on docks and piers; the Southern States and cities are also spending fortunes. Out along the Pacific Coast our engineers are creating wonderful harbors. Los Angeles will have spent before the year 1922 more than \$13,000,000 to build up a twenty-three mile water-front; at San Francisco, the State-owned docks are being extended at a cost of \$1,000,000; Oakland is putting \$3,000,000 into the municipal docks, while San Diego is having her State docks improved at a cost of \$1,500,000. To the northward, Seattle and Portland are putting touches to Nature's handiwork, so that they can accommodate the flood of Oriental commerce coming to their shores.

American Genius Connected Hemispheres with the Cables

HE most far-reaching American achievement has been the connecting of the hemispheres by laying cables under the oceans and bringing the world into almost instant communication. The idea of flashing messages along the bottom of the seas came from Cyrus W. Field, to whom the conception of the ocean cable came as a sudden inspiration. It was in the year 1850; he was talking with his brother, Matthew, about the possibility of laying a telegraph cable across the Straits of Newfoundland. At that time, the cable had not been laid across the English Channel, connecting France with England, and the possibility of an ocean cable had not been dreamed. Field, then a rich retired merchant, suddenly turned to his brother and said:

"Why cannot America and Europe be joined by cable?"

His mind brooded over this great idea, and in the meantime the cable joining England and the continent of Europe had been laid.

It was in August, 1857, that the first momentous step was taken in linking together the two hemispheres. Two ships—the Niagara, an American naval vessel, and the Agamemnon, of the British navy, left Valencia, Ireland, in company, each carrying a section of the first Atlantic cable. One year later—on August 18th, 1858—Queen Victoria sent the first cable message under the Atlantic to President Buchanan. It was, very naturally, an occasion of great international rejoicing. This first cable had been laid from Ireland to Newfoundland; it was 2,000 miles in length, and it had cost Field and his company \$2,000,000, and the cable message of twenty

words cost \$100.

The Old World and the New had been brought together. But unexpected trouble arose. Even in the midst of Field's great personal triumph, the cable suddenly ceased to work. No one knew what was the matter, or how to find out, but the calamity bankrupted the company. With indomitable energy, Field set about to organize a new company, but, before he could succeed, the United States was plunged into the Civil War, and he had to wait. He chartered the *Great Eastern* in 1865 and began paying out a new cable from Ireland to Newfoundland. More trouble ensued. When the *Great Eastern* had arrived within two hundred miles of Newfoundland, at one of the deepest points in the Atlantic Ocean, the cable parted, and more than a million dollars was lost in the sea. Even then, the indomitable Field did not give up. The following year, he sent out the *Great Eastern* again to lay a new cable. At last success was his. Not only was the cable laid, but the cable that had been lost the year before had been recovered.

Since the first working ocean cable was laid in 1866, more than two hundred and forty thousand miles have been laid under the seas, and every important seaport city on this globe has cable connection with the rest of the world. The two longest ocean cables are the British cable from Melbourne to Vancouver and the American cable from San Francisco to Manila. The latter is over 7,000 miles long and touches Hawaii, Midway Island, and the Island of Guam. It connects all the American possessions in the Pacific. Within the last forty years, no one agency has exerted a greater influence upon the life of the world than has the cable. It has revolutionized international policies and diplomacy. Who can estimate the effect of the cable on business? Billions of dollars in the world's commerce now depend directly upon the cable. Before the Atlantic cable, there was little or no business in international stocks and Wall Street did not take its present commanding place in the financial world until the cable enabled it to get into close touch with the London market. Now there is daily over a hundred millions of dollars' worth of business on the world's cables.



STATE CAPITOL AT OKLAHOMA CITY, OKLAHOMA—This State has an area of 70,057 square miles (about equal to Scotland and Liberia combined)—Its population is 1,657,155 (larger than Republic of Ecuador)—Admitted in 1907.



STATE CAPITOL AT SANTA FE, NEW MEXICO. This State has an area of 122,634 square miles (larger than the Philippines and Alsace-Lorraine combined). Population 327,301 (nearly equal to Luxemburg and Iceland combined)—Admitted in 1912,

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Adams Oliver Wolcott

WRITING OF THOMAS JEFFERSON—This document was engrossed for permanent record—The original list reasured in the archives of the Government—It had a greater effect upon the world than any other document ever written.



STATE CAPITOL AT LINCOLN, NEBRASKA—This State has an area of 77.520 square miles (about equal to Greece and Ireland)—Its population is 1,192,214 (about equal to Republic of Salvador)—Admitted to Union in 1867.



STATE CAPITOL AT TOPEKA, KANSAS—This State has an area of 82,158 square miles (about equal to Greece, Hayti, and Costa Rica combined)—Its population is 1,690,949 (larger than New South Wales)—Admitted to the Union in 1861,

PART IV CHAPTER VII

GREAT AMERICAN INDUSTRIES

"O, it is excellent
To have a giant's strength, but it is tyrannous
To use it like a giant."

-Shakespeare.

HE race of vigour, not by vaunts is won," exclaimed Pope. It is difficult to relate with moderate restraint the progress of the American in the industrial arts and sciences. We can only say with Burke that "he that wrestles with us, strengthens our nerves and sharpens our skill; our antagonist is our

helper."

Every civilization, and every age of human progress, is gauged by its power to create new and more serviceable forms for the aspiring spirit of man to work in and express itself. Only by the fashioning of forms does the mind of an individual or of a nation learn to know itself and realize its destiny. We are a great industrial people—the precursors of the Industrial Age—because we are a democratic people. Manufacturing is the democracy of art. It is every man's craft in which to learn to use the mind and hand for the ultimate creation of "life, liberty and the pursuit of happiness." That is why America is the greatest manufacturing nation of the world.

Every American is a product of liberty, and he aspires either consciously or unconsciously to express that freedom in his daily toil. Thus, he strives, in metals, in woods, in earths, in leathers, in furs, in oils, in all the chemical compounds and in all the naked elements themselves, to liberalize and emancipate his soul, and to develop the God in him. America is expressing itself in a hundred thousand mills, factories, and shops, in the ever-increasing skill, efficiency, patience, endurance and self-control of millions of men and women, toiling at machines.

Our factories alone are kingdoms with populations larger than many nations. There are more people at work over the benches in our manufacturing establishments to-day than there are in all of the kingdoms of Greece, Norway, and Switzerland combined; or Portugal and Denmark combined; or Switzerland and Servia. The population of our factories is larger than that of Egypt, or Sweden, or Belgium, or Bulgaria, or Argentina, or Rumania, or Chili and Peru combined, or the six nations of

Venezuela, Bolivia, Ecuador, Cuba, Uraguay, and Paraguay combined. It is a vast empire of machinists and mechanics which labors under our industrial system to create the products that give us our national supremacy. This brawn and brain of the laboring people form the structure of our civilization. Twenty-five years ago the United States became an export manufacturing nation. Fifteen years ago a number of its industries had grown to giant size. Five years ago it had attained complete supremacy in output in seventy-five per cent. of the world's great industries. To-day it leads the world in iron and steel, in automobiles, agricultural machinery, electric goods and machinery, flour and the milling industry, lumber, paper and wood pulp, petroleum, printing and publishing, meat packing, boots and shoes, cordage, cotton goods, soap, sugar, woolens, dyeing and finishing textiles, machine-tools, and both heavy and light machinery.

America has no formidable rivals in this industrial age. This fact more than anything else has changed the whole relation of America to the world. It has given us a great foreign trade in manufactured goods in competition with other nations and it is, moreover, giving us a world consciousness, a new outlook on other peoples and nations, and a new foreign policy. It is taking the provincialism, the narrowness and the feeling of separateness out of our imaginations and creating for us a sense of world responsibility and leadership. This is what our surplus manufactures in iron and steel, in bridges, sewing-machines, typewriters, reapers, and plows, beef and bacon, petroleum and locomotives are doing for us and for the

world.

The magnitude and power of our great manufacturing industries are so colossal that it is difficult to get any real conception of them in figures. There are nearly 300,000 manufacturing establishments, which give employment to nearly 10,000,000 persons. These establishments pay over \$5,000,000,000 in wages and salaries yearly and they produce goods worth \$20,000,000,000. Of this vast sum more than \$10,000,000,000 is added by the skill of the laborer and his machine, as the raw material costs about \$5,000,000,000.

During the ten years from 1899 to 1909 the number of establishments increased 29.4 per cent.; the capital employed 105.3 per cent.; the average number of wage earners 40.4 per cent.; the amount of primary power 85; the value of the material consumed 84.6 per cent.; the value of the product 81.2 per cent., and the value added by manufacture 76.6 per cent. The gross value of products in 1909 exceeded that of 1899 by 9,000,000,000. It has been estimated that the gross value of all the manufactured products of the United States will reach the enormous sum of \$25,000,000,000 in 1920.

GREAT AMERICAN INDUSTRIES

It is estimated, as outlined in another chapter, that the United States possessed \$150,000,000,000 of national wealth in 1914; Great Britain \$85,000,000,000,000, Germany \$80,000,000,000, France \$50,000,000,000, Russia \$40,000,000,000. What is it that contributes most to swell the wealth of the American people? It is our manufactures. Our agriculture, though a big item in our national wealth, is limited. Our mining, another big source of the nation's wealth, is also limited. The value of our manufactures now exceeds them both, because with the advance of civilization an ever increasing percentage of crude commodities has to pass through the factory and mill to be prepared for a more refined use. Fifty years ago, men did not dream of eating cotton seed oil for food or making varnish, or paint out of petroleum, or paper out of wood, or saccharine out of coal tar.

Every time the sun has risen on this great republic since 1910 its rays have shone on \$16,000,000 of new wealth that was not in existence twentyfour hours before and our great manufacturing industries are now contributing the largest item in that sum. Within five years our factories have added nearly as much to our wealth as the little kingdom of Belgium was worth at the beginning of the European War, or nearly half as much as the whole kingdom of Italy is worth, or nearly one-fourth of that of the whole empire of Russia, or one-fifth of that of the rich republic of France. We take four billion dollars out of our fields, mines, and forests, and almost treble them in our mills. We have not only in many lines become the first of manufacturing nations but we are fast approaching the days of becoming the first of commercial nations—that is, the greatest exporters of manufacturing commodities. The die is cast. Our great, teeming cities, containing nearly half our population and ever growing, have determined our future. We are to become the world's greatest workshop and mart.

Beginning of the Industrial Age in America

ET us go back into the years and watch the steady rise of the industrial age. When Alexander Hamilton submitted his celebrated "Report on Manufacturing" to Congress in 1791, practically every family in our country supplied most of its own needs. In New England, the cradle of American manufacturing, some families began to make more than they needed and sold their goods to others. Tanneries, iron shops, furniture factories, and houses for making boats and docks, for building ships and various other manufacturing establishments, sprang up to meet the needs of neighborhoods, villages, and groups of communities.

But the American people from 1800 to 1850 were on the move, push-

ing back the frontier at sunset, driving on into the West till they had come to the water's edge of the Pacific. During these five most eventful decades, the family loom and spinning wheel, the cobbler and the little shop supplied most of the needs of a nation in the throes of its birth. When this great movement reached the Mississippi River in 1840, the line was growing long, and compact settlements stood wide apart. The railroad had now become an absolute necessity. A railroad calls for a factory—and factories came. The new farms of the valleys called for the plow and the reaper—and they came. The nation now had to be built and the great problem was to free as many people as possible from the toils of agriculture to do other work.

Then came the Civil War and it tremendously stimulated the demands for manufactures. Accompanied as it was by a high tariff to raise revenue for the Government, it gave a great impetus to the building of factories. Agriculture was the chief source of wealth until 1880. But the country became a manufacturing nation from 1880 to 1890 and since then manufacturing has dominated our national politics and the policy of the Government. The great corporations and combines from 1890 to 1905 grew out of this dominance of manufacture. According to Mulhall, we produced in manufacturing in 1900 about half as much as all Europe combined. We had greatly increased our lead in 1910 and our manufactured products are now worth more than those of Great Britain, Germany, France, and Austria combined.

One of the secrets of the great power of American industries to produce their enormous output is due to the inventions described in another chapter. In over 90 per cent. of the mills, when it is possible for machinery to do the work of hands, machinery is in use; therefore, an American factory employee does three and even four times more work reckoned by output than an English operative. The American workman uses machine tools whenever it is possible, while English workmen, up to the beginning of the great European War, generally failed to do so. The Germans use these machine tools now very extensively, having some twenty years ago begun the adoption of American machinery methods.

We witness the rapid rise of American industries during the last quarter of the last century. During this period the growth of production of manufactures in the United States was \$5,932,000,000, while in England, Germany, and France combined it was \$3,833,000,000. The percentage of increase for the United States was 85 per cent. and for the three European countries combined 42 per cent. The actual figures for the consumption of three of the most important articles ultilized in manufacturing for each of the countries in question for this term of years show the tremen-



STATE CAPITOL AT DISMARCK, NORTH DAKOTA—This State has an area of 70,837 square miles (about equal to Republic of Uruguay)—Its population is 577,056 (larger than Kingdom of Montenegro)—Admitted to the Union in 1889.



STATE CAPITOL AT PIERRE, SOUTH DAKOTA -This State has an area of 77,615 square miles (larger than Scotland and Greece combined)—Its population is 583,888 (nearly equal to Republic of Nicaragua)—Admitted to Union in 1889,



STATE CAPITOL AT HELENA, MONTANA—This State has an area of 146,997 square miles (larger than continental Italy and Ireland)—Its population is 376,053 (about equal to the Republic of Panama)—Admitted in 1889.



STATE CAPITOL AT BOISE, IDAHO--This State has an area of 83,888 square miles (about equal to Korea)—Its population is 325,549 (about equal to the Island of Crete)—Admitted to the Union in 1890.

dous advance of the American nation. The three articles-cotton, pigiron, and coal—supply in their consumption a better measurement of industrial manufacturing activity than any other data available in countries which take no census of manufactures. The figures presented in the annual report of the Chief of the Bureau of Statistics show that the actual increase in cotton consumption in the United States in the last twenty-five years of the last century was 1,026,017,226 pounds, as against an increase of but 883,653,016 pounds in the United Kingdom, Germany, and France combined, the percentage of increase in the United States being 107 per cent., as against 46 per cent. in the three European countries combined. In pig-iron consumption, the actual increase in the United States was 15,263,454 tons, as against an increase of 11,518,000 tons in the four countries, the United Kingdom, Germany, France, and Russia combined; while the percentage of increase in the United States is 437 per cent., as against an increase of 102 per cent. in the four European countries combined. In coal consumed, the actual increase in the United States was 247,214,000 tons, as against an increase of 175,301,000 tons in the four countries, the United Kingdom, Germany, France, and Russia, combined; and the percentage of increase in the United States is 364 per cent., as against an increase of 82 per cent. in the four European countries combined.

Considering the actual quantities of these three great articles consumed, the figures for 1914 are: Cotton consumption, 5,649,000 bales (each bale 500 pounds) in the United States, against 4,300,000 bales in the United Kingdom, 6,000,000 bales on the Continent of Europe, the total amount consumed in the United States thus exceeding by about 33 per cent. that of the United Kingdom and being far in excess of that of

Germany and France combined.

The total production of pig-iron in the United States in 1912 was 29,798,927 tons, against 17,868,900 tons in Germany, 8,751,461 tons in the United Kingdom, and 4,938,324 tons in France—the production of the United States being thus nearly double that of Germany and considerably more than treble that of the United Kingdom. Of coal production, the figures for the United States are 575,048,125 tons, as against 321,922,130 tons for the United Kingdom, 281,979,467 tons for Germany, 45,108,544 tons for France, and 31,752,744 tons for Russia, the production of coal in the United States being thus nearly double that of the United Kingdom and fully double that of Germany.

The one country of Europe in which the figures of growth begin to approximate those of the United States is Germany, which shows in the case of coal consumption an increase of 174 per cent., against 364 per cent. in the United States; in pig-iron consumption, an increase of 366 per cent.

against 437 per cent. in the United States; and in cotton consumption, an increase of 170 per cent., as against 107 per cent. in the United States. In actual consumption, however, Germany shows an increase in coal of but 99,234,000 tons, as compared with 247,214,000 tons in the United States; in pig-iron, an increase of 7,095,000 tons, as against 15,263,454 tons in the United States; and in cotton, an increase of 513,676,000 pounds as against 1,026,017,226 pounds in the United States.

But it is not alone to high tariff, great combines, and the general use of machinery that the supremacy of America in manufacturing must be attributed. These have been great auxiliary factors but the people who settled this country were naturally creators and inventors and their descendants are so to a still greater degree. Especially was this true in New England where the people, as we have seen in the beginning, showed great aptitude for making things to meet their growing needs. The harnessing of the rivers was one of the greatest achievements in American history.

Causes of America's Supremacy as an Industrial Nation

N inventory of the causes of our greatness as a manufacturing nation may be grouped under the following heads. First stands the native genius of the people, referred to above. Second: agricultural resources; third: mineral resources. There are separate chapters on these factors in this volume. It is plain that a country which produces ninetenths of the world's cotton, one-third of its coal, one-fourth of its iron-ore, one-half of its copper, and a similar generous share of many other things, such as lumber, grain, hides, and petroleum, has a great advantage in the matter of raw materials upon which to set labor and capital at work.

Another important factor in the development of American industries was the canal system, a magnificent but now scarcely used system of navigable rivers amounting to 18,000 miles, and a highly important system of Great Lakes waterways extending for 1,000 miles and carrying a tonnage "equal to nearly 40 per cent. of that of the entire railroad system of the United States." The greatest factor is our railway system, constructed with great rapidity between 1860 and 1880.

As an example of American ingenuity, we may cite the invention of the system of interchangeable parts, which has made possible the use of complex machinery in agriculture or other industries at a distance from machine shops or the point of original manufacture. Activity, skill, and willingness characterize the best type of American workmen, and this willingness is shown, in part, by a readiness to migrate to those places where manufacture can be carried on most economically. The organizing

ability of American capitalists cannot be doubted. There is scarcely an industry upon which the peculiar genius of the American has not wrought an effect.

The introduction of machinery has changed our whole economic system. In food manufacture we began with the slowly revolving millstone, but Oliver Evans originated the system of automatic conveyors now in use. When later this was coupled with the middlings purifier, also of American origin, and the Hungarian roller process in a modified form, the modern mill first became a reality. Here the factory system was first applied to the making of cheese and butter, resulting in the cheese factory and creamery. An instance of a wonderful application of machinery to a complex process is afforded by our slaughtering and meat-packing establishments. While the production of beef extract in South America is reputed to be one of the most wasteful industries in existence, involving the destruction of an entire carcass of beef to produce a few pounds of extract, the American method with beef and pork products is based upon the utmost despatch through the division of labor, continuous refrigeration from factory to consumer, and the utilization of every product so that there is no waste. It has been said that "the packer gets everything out of the hog but its squeal, and this he gets out of the public."

In textile manufacture we are now the second nation in the world in the number of cotton spindles operated, and first in the amount of cotton fibre used. In iron and steel manufacture, we long since passed our chief rival, Great Britain. It was an old axiom for many years that the manufacture of steel could only develop where coal and ore were together. Yet Chicago, very distant from ore and coal supplies, is the seat of an enormous production of iron. The ore from Lake Superior and the coal from Pennsylvania meet there half way. Other lake ports, like Cleveland and Toledo, present the same phenomenon due to the cheapening of rail transportation. The development of the industry in the Pittsburgh region and in Alabama has made this country the greatest producer of iron and steel in the world. Here structural steel was employed in buildings. The structures into which the first girders went are still standing-Cooper Union and Harper's publishing house in New York City. An enormous demand for iron and steel is created for agricultural and mining and manufacturing machinery and also for electrical equipments and gas and water pipe. Nowhere are stoves and ranges made so large and beautiful as here, and nowhere is tin plate used so lavishly. In lumber, leather, paper and other lines the record is similarly very great.

The United States is at the head of the shoe export trade. It sells to other nations some \$12,000,000 worth of shoes annually, the principal cus-

tomers being Cuba, the United Kingdom, Canada, Mexico, the West Indies and Bermuda, Central America, France, Germany and the Philippines. Cuba alone purchases 35 per cent. of all the shoes exported from this country, France only about 2 per cent.

Growth of Great Cities upon Industrial Foundations

NDUSTRIES of the United States are most of them strongly localized in certain regions. This tendency to develop a territorial division of labor always has been marked in this country, in agriculture as well as in manufactures. The causes which lead to the location of industry in certain places are enumerated by the census: Nearness to materialsthis is illustrated by the oyster canning of Baltimore. Nearness to market—the agricultural implement manufacturers of Chicago find their best market in the region which is tributary to that city. Water power-Fall River, Massachusetts, with its textile manufacture, Cohoes, New York, with its knitting industry, and Niagara Falls, with its electro-chemical industries, have resulted from the utilization of water power. Favorable climatethe Piedmont section of the South attracts cotton mills, not only because of its nearness to materials and its water powers, but because of its favorable climate. Supply of labor—the garment trades are largely monopolized by New York City, Philadelphia, and other large cities on the coast because there is a large population of foreign birth, with modest standards of living, which furnish adequate supplies of economical labor.

The absorption of capital by American industries is an interesting phase of our national growth. When the whaling industry declined, New Bedford, which had become wealthy by means of it and was ranked as one of the richest cities in the United States, invested much of its capital into cotton manufacturing. The city of Chicago was not able to surpass Cincinnati as the center of the pork-packing industry in the West until the local banks acquired enough money to aid the packers in carrying the enormous financial load of buying the raw materials, which for that business constitute about 75 per cent. of the value of the finished product. Sir William Johnston early brought glovers from England to Johnstown, New York, and started the industry for which that city and Amsterdam and Gloversville are now noted. Had the celebrated "shoemaker of Lynn" settled in a neighboring village, Lynn might not now signify shoes wherever the name is heard.

If we examine a map, showing the location of American manufactures, we shall observe that they are markedly concentrated along the Atlantic seaboard, from the middle of Maine to the latitude of Baltimore, and covering a region extending perhaps one hundred miles back from the coast.



STATE CAPITOL AT CHEYENNE, WYOMING—This State has an area of 97,914 square miles (nearly equal to England, Scotland, Wales and Belgium combined)—Its population is 145,965—Admitted to the Union in 1890.



STATE CAPITOL AT DENVER, COLORADO—This State has an area of 103,948 square miles (nearly as much as New Zealand)—Its population is 799,024 (larger than the Republic of Paraguay)—Admitted to the Union in 1876.



STATE CAPITOL AT SALT LAKE CITY, UTAH—This State has an area of 84,990 square miles (larger than Uruguay and Belgium combined)—Its population is 373,351 (about equal to Republic of Costa Rica)—Admitted to the Union in 1896.



STATE CAPITOL AT PHOENIX, ARIZONA—This State has an area of 113,956 square miles (larger than continental Italy)—Its population is 204,354 (larger than the Island of Hawaii)—Admitted to the Union in 1912.

West of this an irregular belt of country, including middle New York, western Pennsylvania, and northeastern Ohio, stands out prominently. Passing still farther west, we find the manufactures not so evenly distributed, but rather concentrated at certain points, such as Cincinnati, Louisville, the gas belt of Indiana, Chicago, Milwaukee, St. Louis, Minneapolis, Kansas City and Omaha. The South shows a large number of small, rather isolated manufacturing localities. These occur most frequently upon the Piedmont Plateau, from southern Virginia to northern Alabama. In the Rocky Mountain States and the region west of them, five centers stand out separated from one another by wide intervals of undeveloped country. They are the middle portion of Colorado, Salt Lake Valley, the Butte region of Montana, the Puget Sound and Columbia River cities from Sacramento to Alameda.

The national center of manufactures has been fixed at a point in the middle of Ohio, about ten miles southeast of Mansfield. It has moved west only about forty miles in ten years. The center of population lies west of this, in Indiana. California is first in preserving vegetables and fruits, vinous liquors, lead smelting and refining. Connecticut is first in ammunition, brassware, clocks, corsets, cutlery, needles, pins, and hardware. New York is first in thirty-one industries, among which are butter and cheese, gloves, factory-made clothing, furniture, chemicals, hosiery, malt liquors, lithographing, printing and publishing, millinery and lace goods, paper and pulp, patent medicines, soap and candles, sugar refining, cigars and cigarettes. Illinois is first in the manufacture of agricultural implements, bicycles, cars, glucose, and distilled liquors, and in slaughtering and meat packing. Wisconsin is first in lumber and timber products. Minnesota leads in flouring and grist mills. Texas leads in cotton ginning and manufacture of products from cotton seed. Some manufactures are limited to very restricted areas, a group of States or a single State or even a portion of a State confining them. The most highly concentrated industry is the making of collars and cuffs, of which 99.6 per cent. is within New York State and 85.3 per cent. is in the single city of Troy.

The tendency to centralize industry has given rise to cities which are chiefly devoted to one occupation. The city most wholly given up to one thing is South Omaha; 89.8 per cent. of the products of this city are the output of the great packing houses located there. A list of cities of 30,000 and over in population, in each of which 40 per cent. or over of the industrial products belong to one branch of manufacture, is an interesting study. Brockton, Haverhill and Lynn, Massachusetts, signify shoes. In the past twenty years the shoe business has been growing rapidly in the West,

especially in the Valley of the Mississippi. Lynn, however, has retained its supremacy in the shoe trade and produces 75 per cent. of the shoes made in New England and 50 per cent. of all the shoes made in the United States, or about 10,000,000 cases. Springfield, Ohio, means agricultural implements; Troy, New York, is collars and cuffs. Cotton goods are concentrated in Warwick, Rhode Island; Fall River, New Bedford, Massachusetts; Lewiston, Maine; Manchester, New Hampshire; Charlotte, North Carolina; Columbia, South Carolina. Fur hats are in Bethel and Danbury, Connecticut; Orange, New Jersey. Glass in Millville, New Jersey; Tarentum and Charleroi, Pennsylvania. Knit goods in Cohoes, New York; iron in McKeesport, Youngstown, Johnstown, New Castle, Joliet, Pittsburg, Trenton. Jewelry in North Attleboro and Attleboro. Massachusetts. Gloves in Gloversville and Johnstown, New York. Pottery in East Liverpool, Ohio. Silk in West Hoboken and Paterson, New Jersey. Slaughtering and meat packing in Chicago, South Omaha, Kansas City and St. Joseph.

About one-half of the manufactures of the United States are turned out in our one hundred largest cities. These cities contain 28 per cent. of the population. About one-third of these products come from the 209 cities having over 20,000 population. The greatest concentration of a manufacture in cities is found in the case of men's and women's clothing, hats and caps, cars, umbrellas and canes, lithographing and engraving. The smallest degree of concentration is found in the case of flour and grist

mills, distilled liquors, and brick and tile.

New York City is most cosmopolitan in its manufactures, exhibiting the greatest variety of them, and having a number of establishments which are the only ones of their kind in the country. There were 45,776 manufactories in New York City (1910), employing \$15,250,000 capital and 600,000 persons turning out goods annually to the value of \$2,371,000,000. The most numerous class of establishments in the city was for custom work and repairing of boots and shoes, of which there were 3,841. There were more than 1,000 establishments each for the manufacture of cigars, women's clothing, dressmaking, carpentering, men's clothing, and also for plumbing, painting, and blacksmithing.

Visit to the Iron and Steel Industries in America

ET us go on a few short visits to some of the great American industries. We view the huge mining and agricultural industries in other chapters, but here it is instructive and entertaining to survey some of the manufacturing groups. This is the day of giants—there is no denying the truth. We see them wherever we turn our eyes—giants that step

from flaming furnaces and stretch their enormous frames over valleys and rivers, or snort fire from their nostrils, or float on the waves like sea monsters. And the greatest giant of all is the steel industry. Here we look into blast furnaces that turn huge kettles of molten metal into far leaping steel bridges, towering steel skyscrapers, deep steel tunnels under the earth, steel greyhounds of the ocean, steel engines running swiftly across continents on steel tracks. The molten masses of iron are daily transformed into that greatest of metal-yes, greater than gold and silver-the metal that is the back-bone of our modern civilization. First we had the Stone Age; then the Bronze Age; then the Iron Age—this is the Steel Age. Our lives are to-day encompassed by steel. We are absolutely dependent on it for our daily necessities and conveniences. Imagine what the world would be like with steel taken out of it. The amount of steel used for warlike purposes is overwhelming, but it is nothing compared with that employed in the arts of peace. The railroads alone laid out through the length and breadth of the United States represent a weight of 70,000,000 tons, while the engines in use total nearly 5,000,000 more.

Watch for a moment the transformation of iron into steel by the genius of man. The molten iron is run onto a train of ladles, whose locomotive draws it to the open-hearth department of the steel works. There the air is blown through it by what is called the Bessemer process, or it is poured into an oven and subjected to a fierce heat. Then it is poured into a gigantic ladle, capable of holding fifteen to twenty tons, which is swung by a crane to a position just above a train of ingot molds placed in little trucks on a railroad track. Through a hole in the bottom of the ladle the steel is poured into each mold, filling it to the top; and, when it has cooled sufficiently to stand, the molds are stripped off, and there are the ingots massive blocks of steel, six feet high, and a foot or more thick, and still red-hot. Then the little train moves on to the soaking pits, where an overhead crane, with a pair of jaws like huge ice tongs, seizes each ingot and lowers it into a pit, where its temperature is equalized, the surface being warmed by a gas flame, whilst the inner part cools down. It then goes to the roll-tables, where it is squeezed into shape, according to the use for which it is designed. It is now sent forth to perform its mighty mission in the world. Forthwith it takes myriad forms of usefulness. It girdles the earth with railroads. It lines the huge buildings of our cities. builds up the machinery of the factory. It prints the newspaper. It fills the surgeon's case. It plows and reaps the harvest of the world. moves the giant vessel over the ocean. It makes the world's clothing. There is nothing of importance in the affairs of men in which the great magician, Steel, does not have a part.

This is an American industry. A century ago, steel played a hardly greater part in our lives than in those of our primeval ancestors. beginning of the Nineteenth Century, about 35,000 tons of steel were made annually in Great Britain, then the greatest producer in the world. produced six and a half million tons in 1911. But the United States has quadrupled that figure, with 24,000,000 tons out of the world's output of 58,000,000. We lead the world, not only in the production, but in the use of steel. When Bessemer, an Englishman, suggested his new process for making steel, in 1855, from cast iron without fuel, he was laughed to scorn. But Americans were quick to see the possibilities of the invention, and the production of steel by the new process increased by leaps and bounds in this country. How astonishing this progress has been is shown by the fact that, at the opening of the twentieth century, the United States was producing as much steel as the whole world had produced in 1892. It would have required the total production of all the gold mines of the world to pay for that one year's production of steel.

Let us try to get an idea of the magnitude of the present annual product of steel in the United States—which is five times the total production of the world twenty years ago. Suppose that for one year the country could spare from its ordinary use all the steel produced and devote it to ornamental purposes. It would make a magnificent colonnade of pillars, 4,150 on each side, 20 feet in diameter and 100 feet high. Or, if we preferred it, we could build one colossal column, 100 feet in diameter, and pile it up higher than Mount Everest, the loftiest peak in the world.

In the old days steel was used in destroying human life—that was almost its sole use. In these times, it is employed for protecting and preserving human life. Even in the case of a great railroad accident, the disastrous effects are minimized by the use of steel cars. And here should be mentioned one of the most beneficial purposes to which steel has been applied—the construction of great buildings. It has proved its worth in the presence of fire and earthquake. In the great Baltimore fire, the framework of the steel buildings stood unscathed, even when exposed to the full severity of the conflagration. An even more convincing illustration was provided in the San Francisco fire, when the tall, steel-ribbed buildings stood practically intact, after enduring shocks which threw everything around them to the ground. And tests made of steel corrosion show that the life of such buildings is practically assured for generations. strength of steel is phenomenal. The number of strands in a steel rope an inch in circumference varies from 40 to 400, and a strand as large as a knitting-needle will require a ton weight to tear it apart!

As America has become the empire of steel, so is Pittsburgh its capital.



STATE CAPITOL AT SACRAMENTO, CALIFORNIA—This State has an area of 158,297 square miles (larger than England, Scotland, Ireland, Wales, and Servia combined)
—Population 2,377,549 (larger than Norway)—Admitted in 1850.



STATE CAPITOL AT CARSON CITY, NEVADA—This State has an area of 110,690 square miles (nearly equal to the Philippine Islands)—Its population is 81,875 (about equal to Bermuda and Bahama Island combined)—Admitted in 1864.



STATE CAPITOL AT OLYMPIA, WASHINGTON—This State has an area of 69,127 square miles (larger than kingdom of Roumania)—Its population is 1,141,990 (larger than Republic of Uruguay)—Admitted to Union in 1889.



STATE CAPITOL AT SALEM, OREGON—This State has an area of 96,699 square miles (nearly equal to Republic of Paraguay)—Its population is 672,765 (larger than the Republic of Nicaragua)—Admitted to the Union in 1859.

Around it, stretching in every direction in a huge circle is a network of steel-making towns. Steel has multiplied the population of Pittsburgh by ten during the past fifty years and has doubled it during the past twenty; it now stands eighth among American cities. It has made more millionaires, and more quickly, than any other industry. So long as America is at the head of the steel industry, it will lead the world. "The nation that makes the cheapest steel," said Andrew Carnegie, "has the other nations at its feet. Steel has come to be the basis of all material progress, and our civilization is built, as it were, upon a framework of steel."

Flour Milling Industries in the United States

GLIMPSE at the flour milling industry in the United States shows an interesting phase of our national everyday life. The little grain of wheat feeds the world. Our enormous mills eat up millions of bushels of wheat like hungry giants. England, Holland, Switzerland, Belgium, Norway, and Sweden must all look to foreign countries for their wheat and flour. We bake bread enough every year to give thirty loaves to each of the earth's inhabitants. We could build eight "bread lines," each stretching from New York to San Francisco. little sheaf of wheat passes through in its journey from the harvest fields of Kansas, or Illinois, or Washington, or Nebraska to the twenty-odd millions of American breakfast tables. The first merchant mill was erected in Minneapolis in 1854. The first great steel mill was erected in 1878, and in twelve years this infant city on the headwaters of the Mississippi became the world's greatest "flour city." Improved machinery has made flour milling one of the greatest of American industries.

If you ever go to the "flour cities," be sure to visit the wonderful grain elevators. They are high, windowless buildings, with a superstructure resembling a cupola, in which is installed the machinery. The elevators of the Northwest, such as those of Minneapolis, for example, are capable of storing from 500,000 to 4,000,000 bushels of wheat, and can handle and transfer as much as 30,000 bushels in an hour. There were in the United States, at the time of the last census, 11,691 establishments producing flour. They paid \$38,981,000 in salaries and wages that year, and gave work to 51,484 persons. There were \$349,182,000 invested in these establishments, and the value of the products was \$883,584,000.

than two hundred million barrels of wheat flour were produced.

The sugar industry is one of the great factors in American progress and is an economic and political problem. We Americans are now consuming nearly 4,000,000 tons of sugar a year. The world's annual output is 12,000,000 tons. More than 7,000,000 tons are obtained from

beets. Few persons realize how the industry has gone through an evolution which has made sugar the commodity which it is to-day. This evolution has been brought about by the application of modern American ideas to the machinery and chemistry involved in extracting sugar from the plants and in the methods of refining the raw product.

Sugar Industry and the Development of the South

THE first sugar mill to be established in this country was that of Etienne De Bore. The cane had been introduced in Louisiana, in 1751, by the Jesuits, and thrived there fairly well. De Bore's mill was erected not long afterward on what is now the site of the city of New Orleans. To-day the extraction and refining of sugar, as well as the growing of the cane, constitute one of the most important industries of that part of the South. Steam mills came into use in the first half of the Nineteenth Century, a Mr. Coiron being the first man to adopt the idea. From that time on, the mills have grown in size and effectiveness, so that by 1900 there was exhibited at the Paris Exposition a sugar mill that was capable of crushing three hundred tons of sugar-cane a day; but the latest mills can crush from nine to twelve hundred tons in twenty-four hours. American inventiveness has, of course, helped to make this possible. Jeremiah Howard patented a device for the regulation of the feeding of the stalks into the first roller in 1858. This patent operates so as to have both sides of the roller working evenly and also prevents foreign substances, such as stray pieces of wood or iron, from entering. The primitive open receptacles have given way to the modern multiple-effect evaporator, an invention of Morberto Relleux, who first put it into use at New Orleans in 1840. He discovered the important fact that, the shorter time the juice is exposed to heat, the less loss there is of sugar. The time required has been cut down by carrying out this evaporation in vacuum pans, an idea first put into practice by E. C. Howard. Before sugar is fit to be placed on our tables, it must be refined, and the refining is often done miles away from the sugar mills. There are great suger refining factories in and about New York City, and to these hundreds of thousands of tons of raw sugar are brought yearly from foreign mills as well as those in the southern part of our own country. It was an American who finally produced sugar from beets, and made it practical for commercial purposes. His name was David Lee Child. He gave it his attention in 1840. The brothers Genert set up a beet-sugar mill in Chatsworth, Illinois, in 1863. There are now more than seventy beet-sugar mills in this country.

Leather Industry Grows to Gigantic Proportions

HE leather industry is a witness to American ingenuity. There are over 200,000 engaged in all the branches of the industry in the United States. We have 5,000 establishments in this country and they earn more than \$100,000,000 each year. We import from all countries of the world—the United States cannot begin to meet our demand—more than \$120,000,000 worth of hides and skins, stripped from the backs of cattle, horses, buffalo, sheep, goats, kangaroos, pigs, and even the fish of the sea, and many other kinds of animals.

It has been said that the Pilgrims, not intending to walk barefoot in the New World, brought over a cordwainer for the purpose. The first tannery mentioned in America is the Virginian establishment which began operations in the same year that Boston was founded, 1630. It was only a matter of a year or so before Francis Ingalls had one established in the Massachusetts Colony, in Swampscott. In those days, the trade was considered of such vital importance that the authorities issued strict laws that, whenever an animal was killed, its hide must be saved for the neighborhood leather maker, and also laws that prohibited, under heavy penalty, hides being exported. Under this protection the industry flourished, especially

that of making shoes.

Many great Americans have been shoemakers. One of them was Roger Sherman, a signer of the Declaration of Independence and a maker of the Constitution of the United States. He worked at the bench for twenty-two years. From the old-time shoemaker's bench to the modern shoe factory there intervenes but little more than a century of practice. The battle of New Orleans was but a year old when J. W. Hopkinton invented the shoe-pegging machine, one of the first steps toward the modern era of shoe-machinery. If you have never been in one of the New England shoe shops, as they are to-day, you cannot appreciate the wonderful ingenuity of the machines. They perform all the work, from cutting out the leather to putting on the finishing polish. There are machines that sew the uppers together, make and attach the toe-caps, fasten in accurately the eyelets, fit the uppers over the lasts so that they fit the foot like a glove, cut grooves, and trim, nail, and stitch inner and outer soles together and then to the uppers, level the soles and heels, which are nailed on by machinery, to a uniform thickness and then sandpaper them, and finally bevel, blacken, and burnish the heels and soles with hot irons. The finished product is the pride of American industry and is pronounced by the world as the finest shoe made. The American shoemakers are turning out

their product at the rate of 250,000,000 shoes every year, enough to give every individual in our nation two and a half pairs.

American Woolen Industries Clothe the Nation

THE United States is the greatest wool consuming nation in the world. To supply this demand, or at least a great part of it, we have in this country more than 50,000,000 sheep, a greater number than we have of horses, mules, and dairy cows. In the one State of Montana alone there are more sheep than there are mules in the whole country. We clip from all our sheep more than 300,000,000 pounds of fine wool, enough to supply every individual American with three pounds each. Over 1,200 American woolen mills use this vast fleecy mass, and call upon the rest of the world for sufficient wool to meet the insatiable demand. Columbus when he came to America in 1493, included in his cargo several Spanish sheep, which became progenitors of large flocks in New Mexico, Utah, and Texas. Sheep were introduced from England into Virginia in 1600; into Massachusetts from England in 1624; and into New York from Holland in 1625. Picture a well sheltered valley, deep with luscious grass. Keen-eyed men, two to a flock, ceaselessly watch their charges, numbering, in the aggregate, hundreds of thousands of sheep, each valued at from \$3 to \$12 apiece. Scores of intelligent sheep dogs sit on their haunches, keenly watching every move of the sheep. It is early spring in one of our Southwestern States, and the drovers are preparing to bring their flocks to the clipping sheds. They are long rambling buildings, whose interiors resemble a modern factory in the point of machinery. Long belts hang to the shaftings and lead down to the clipping machines, or shears. Twenty shearers, men who are experts at their trades and follow the clipping seasons, as the wheat harvesters do, take position beside the machines. When all is ready, each man reaches into the shute leading from the outside and seizes a sheep and with a quick swing has it in sitting posture between his knees. The machinery whirrs, and the flashing shears slip over the sheep's back, clipping off his woolen coat in less than two minutes, a coat weighing on the average seven pounds of good wool, which, after scouring, will sell at the rate of about 55 cents a pound.

Ninety-five out of every hundred Americans who wear woolen clothing are clad in fabrics from American mills. To describe the processes by which the various cloths are made would fill a volume, as almost every kind of cloth is manufactured differently. The worsted machines are ingenious. One, the gilling machine, levels the fibers and makes them lie parallel, one pair of rollers pulling the yarn over heavy steel bars, fallers, covered with projecting pins, the pins becoming finer and more numerous



GOVERNOR'S PALACE AT SAN JUAN, PORTO RICO—United States took possession of this island in 1898—Its population is 1,151,579—Its area is 3,604 square miles—This photograph is loaned to this volume by Ex-Governor George R. Colton of Porto Rico.



GOVERNMENT BUILDING AT HONOLULU, HAWAHAN ISLANDS—These islands became territory of the United States in 1900—Their area is 6,449 square miles and their population is 200,065—Hawaii is one of the large sugar producing countries.



FIRST INAUGURAL ADDRESS DELIVERED TO THE AMERICAN PEOPLE—This famous engraving by shows Washington as he stood before both Houses of Congression and pril 30, 1789, and delivered his inaugural address—It was characterized by his usual modesty, moderation and good sense.



PRINCIPLES OF DEMOCRACY SET FORTH BY WASHINGTON—Washington, at his inauguration, sounded the key-note of Republican Government; "The foundation of our national policy," he said, "will be laid in the pure and immutable principles of private morality, and free government."



GOVERNMENT BUILDING AT MANILA, PHILIPPINE ISLANDS—The United States established civil government in these islands in 1902—The population is 8,460,052—Its area is 115,026 square miles (larger than the Kingdom of Italy).



GOVERNMENT BUILDING IN JUNEAU, ALASKA—This territory was purchased by the United States in 1868—Its area is 590,884 square miles (larger than the German Empire in Europe, England, Scotland, Ireland, and France combined).

as the fiber travels through the machine. From here it goes to a machine to be spun into very hard, twisted thread. Then it is ready for weaving. John Kay gave to the world, in 1733, his flying shuttle, and, in 1760, the drop-box, an attachment by which different colored threads could be woven into the fabric. In 1784, the Reverend Edmund Cartwright invented the power loom and revolutionized the industry. Next Joseph Jacquard, of France, invented, in 1801, a loom for weaving figured patterns. Leonardo da Vinci, the painter of "Mona Lisa," invented the machine which is used to-day to trim the pile of cloth.

Gigantic Packing Industries in the West

NE of the greatest American industries is ranching and the slaughter of cattle. On our great ranches to-day, awaiting the whim of our hunger, are over 60,000,000 head of cattle, 58,000,000 swine, and 52,000,000 sheep and lambs—quite a delicate little luncheon. Their value exceeds \$2,000,000,000; so it is rather an extravagant luncheon after all. To drive this "living dinner" into our dining-rooms requires more than 1,700 slaughter houses and meat packing establishments, employing about 110,000 men, women, and children.

France was the first country to have these modern "meat handling" plants. During the reign of Napoleon I, a commission was called together to consider the question of "slaughtering animals for food," with the result that, in 1818, six abattoirs were built and put into operation in Paris; these six are still in use. It was not until 1860 that the need for abattoirs was felt in America. The West had developed into the greatest meat providing region in the whole world, and foreign countries were importing our beef. As a central market was needed, the abattoirs were located in the stockyards in Chicago, and soon became the most important, the largest, and the best equipped in the world. To-day millions of heads of cattle, hogs, and sheep are sent to Chicago alone. They are forwarded in airy cars, they are watered and fed during transportation, and only the healthier animals are selected for slaughter. Chicago stockyards spread over more than 500 acres of ground. Huge abattoirs have been erected in Kansas City, Omaha, and many other cities, until to-day it is one of the great American industries. Wonderful machinery transforms these animals almost instantly into beef, pork, and mutton, which are hurried on refrigerator cars to the homes of America across the seas to the peoples of this earth.

The higher development of abattoirs has rested entirely with America. Countless patented inventions have helped to make them what they are, and the brains of many men have worked out the problems. The practice

of canning meat began about twenty years ago and has come to be one of the most important departments of the meat producing industry. These large abattoirs have enabled America to outstrip all rivals in the amount of meat furnished to the world. The United States produced 3,059,000 tons of beef in a single year. The nearest rival, Russia, produced 1,546,000 tons in that year; while the third highest, Argentina, produced 985,000 tons in the same period. American beef is used all over the world, being exported in cold storage or in tin cans. Only American ingenuity and inventiveness have made this possible.

Growth of the Huge Automobile Industry

TO pass through even the leading manufacturing industries in this country would require a lifetime. It is possible here only to suggest the most conspicuous. The growth of the automobile industry has been one of our Twentieth-Century marvels. Six million dollars were invested in the business about the beginning of the century. Twelve years later, it had multiplied to \$450,000,000. There were 2,500 persons actually employed in about thirty establishments in 1899; there were more than 85,000 employed in more than 400 establishments in 1912. the persons who are affiliated with the industry, including the capacities of salesmen and demonstrators, there is an army numbering in the neighborhood of a quarter of a million. There were 3,500 cars in our country about twelve years ago; to-day there are more than a million or about twenty times as many as there are passenger coaches on our American railways. These figures are constantly changing, at the rate of 300,000 or more new cars every year, four-fifths of which, it is said, are sold to Americans, the rest being sold in foreign countries.

What has the automobile actually done for Americans? It has worked a new revolution, greater in its results than war. It has brought health, wealth, and pleasure; it has made the tourist familiar with the out-of-way places of the world, as no railroad could possibly do. It has inaugurated a new spirit of travel and thereby greatly increased knowledge. It has built up the small towns; it has taken people out of cities to the fresh air of the country, instead of crowding them into the heart of the congested city. It has greatly increased property values. It is a factor in science; the doctor finds it invaluable when hurrying to save a life; the hospital sends out its auto-ambulances. The fireman uses it to carry himself and his apparatus to the fire. The parcels postman uses it to carry his heavy bundles. The shopper utilizes it in her trips to the stores. The visitor to a city finds taxicabs awaiting him at the station to convey him through the crowded streets to a hotel. There are auto-police

wagons and auto-commercial trucks. Auto-freighting cars carry the precious metals from Costa Rica's mountain-tops to her seaports. California auto-trucks carry borax out from Death Valley. There are auto-street-sweepers, auto-hand cars, and even auto-chapels, from which mission-

aries preach the Gospel to those who cannot attend church.

The automobile is thirty times more efficient than the old mule team. It can haul a load of 100 tons to a distance of 100 miles in twenty hours. Furthermore, it is much cheaper than horses. The automobile is doing our farming to-day. Its first test was in plowing; it showed that horses cost \$3.68 an acre, steam power \$4.08, and gasoline motor power \$1.97 each acre. An auto plow can do as much work in one day as a two-horse team can in six. The marvelous little auto-tractors pull the plow, the harrow, the planting and the mowing machines. The automobile has proven the farmer's friend. One-fourth of the automobiles sold to-day go to farms west of the Mississippi. In Egypt it turns up the desert in the very shadow of the Pyramids.

But one of the greatest of boons that the automobile has renderd to civilization is the demand for good roads. During its comparatively short career, it has changed the whole highway systems. Not millions, but billions of dollars are being expended in building great highways that weave their way through the continent like a huge spider's web. The automobile has come to stay. It will become more and more general in its use until the peoples of the earth are darting from place to place in these veritable houses on wheels. Even when the airship lures us into the clouds, the

automobile will remain the master of the land.

We might continue this chapter throughout many volumes, but this survey suffices to impress upon the reader the democracy of American industry. America's vast industries are its great handicraft universities—its real senates of national expression. Here the mind goes out from the hand into the machine and creates an Industrial Nation and an Industrial Age. The machine is endowed with all the powers of the human senses—it is a magical creation. The great American industries are nothing less than gigantic forums of human progress. The original statesmen are the inventors, but the millions of operatives are in turn training to be the diplomatists of democracy. Thus, the great American factory, with its magical machinery, has washed from the face of the world's industry the last vestige of human slavery. It has crowned the labor of the world with the diadem of nobility—and the noblest of human attributes is industry.

GREAT AMERICAN RAILROADS AND COMMERCE

"Nature is the master of talent; genius is the master of nature."

—Holland.

HE genius of modern civilization is—transportation. It is the backbone of the anatomy of civilization. For civilization is not an abstract thing; it is a physical structure—a huge body formed over a gigantic frame and performing its well-defined functions through it own vital organs. The newspaper is the heart, the organ of the circulatory processes; the telegraph and telephone is the nervous system; the railroad is the skeleton of the whole body; the street railways are the muscles; and the arteries are the channels of commerce.

If one was to ask what single factor had done the most for American progress—what material force had contributed the largest to our development—it is probable that the economists would reply: "The railroad." This is the stupendous power that made possible the Industrial Age. It is the miracle that allowed the American nation to stretch its limbs across a continent. Without it, neither agriculture, nor manufacturing, nor mining could exist to-day on their gigantic scale. Practically every large city in America owes its existence to the genius of transportation. It is the burden bearer of all the products of the people and all the materials with which they work and live.

Macaulay must have prophetically referred to the railroad when he said: "Of all inventions, the alphabet and printing-press excepted, those inventions which abridge distances have done most for the civilization of the species." The railroad not only "abridges distances" but it annihilates both distance and time.

The railroad has been the empire builder—it is the genii behind the development of the Great West. Through its power the forests become great cities; the waste lands pour out abundant riches, the desolate plains become peopled by the multitudes. Out of the vast Western wilderness, scorned by the greatest statesman of the day, there has been wrought one of the greatest modern miracles. Darkest Africa held not more forbidding dominion than lay beyond the banks of the Missouri River in these United States a generation ago. It took bold spirits to dare to brave the storms



LARGEST RAILROAD STATION IN THE WORLD—The Grand Central Terminal in New York covers over 70 acres, and cost \$180,000,000—It can hold about 30.000 people—It is estimated that 25,000,000 persons pass through this gateway to New York each year.



GREAT AMERICAN RAILROAD STATIONS. This is the Pennsylvania Station in New York City— It covers twenty-eight acres, more land than any other building in the world—This structure with site cost \$70,000,000.



FAMOUS GENSERS OF THE YELLOWSTONE—These volcanoes of hot vapor burst forth with violence from boiling springs—There are 1,500 hot springs in Yellowstone Park, with their varying colors and eruptions—The largest is the Giant Geyser, which throws its clouds of steam to a height of 500 feet.

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of ridicule when it was first suggested that the rivers and mountains be spanned by steel rails. In the year 1845, a year before the boundary between the United States and British Columbia was settled, a man named Asa Whitney petitioned Congress in behalf of a steam road, closing his address with the prophetic words: "You will see that it will change the whole world."

This challenge aroused the ridicule of the statesmen. Senator Dickerson, from New Jersey, had in a previous session caused the tabling of a bill which favored making Oregon a State. "It is absurd," he said. "Why, a member of Congress traveling from his home in Oregon to Washington and return, would cover a distance of 9,200 miles, at the rate of thirty miles per day. Allowing him forty-four days for Sundays, three hundred and fifty days would be consumed, and the member would have fourteen days in Washington before he started home. It would be quicker to come around Cape Horn or by Behring Straits, Baffin Bay, and Davis Strait to the Atlantic, and so to Washington. True, the passage is not yet discovered, except upon our maps, but it will be as soon as Oregon is made a State."

No one seemed to believe in the possibilities of the great Western dominion of the United States. Even those men who had penetrated the heart of the wilderness had no encouraging words for it. We find the doughty discoverer, Pike, for whom Pike's Peak was later named officially, advising the Government that the region was "incapable of cultivation," and that perforce Americans must confine themselves to the banks of the Missouri and Mississippi. The Great West by consensus of opinion seemed doomed to exile from civilization.

But in all ages there are a few men with the courage of their convictions. They launched an expedition into the unknown region to determine suitable routes for a "transcontinental railroad." This private exploration began in 1853 under the auspices of Jefferson Davis, then the Secretary of War. Ten years later, Lincoln dispatched General Grenville M. Dodge to take definite surveys for the Pacific Railroad. There were then only twenty-six and one-half miles of railroad west of the Missouri River. The Government was paying at the rate of \$40 per ton for every one hundred miles to have supplies carted by wagon train to army posts, and there were scarcely any settlements, excepting those devoted to trapping or mining.

About the time when the bloody battle of Chickamauga and Chattanooga were taking place in the East, two bodies of workmen, one in San Francisco and the other at Omaha on the Missouri River, broke earth and began the great task of laying the first transcontinental railroad through

the wilderness. The public was skeptical of success. The financiers of the work were called foolhardy, if not worse. Even the workmen on the western end of the road had so little faith in the project that they demanded their day's pay before they would work. These discouragements were increased by the awful truth that every man employed upon the work was in danger of his life, day and night. The Indians did not take kindly to the idea and did their best to kill off the workmen and surveyors. A constant guard of soldiers was required. The region for the most part was destitute of timber or fuel, and these had to be freighted by steamboat and wagon train. It was a prodigious undertaking, putting American courage to the test, as it never had been before.

Less than six years after the epochal work had begun the miracle had been accomplished—the Great American Desert had been spanned. The East was bound to the West, in a union which was to yield vast wealth and power to both. The scoffers ceased to scoff, and the whole nation arose in jubilee. Some of the larger cities devoted the historic day -May 10, 1860-to a holiday of rejoicing. Out on Promontory Mountain there existed but a single gap in the line—a gap of one hundred feet. Sturdy bodies of workmen stood ready to lay the last rails. The builders of the roads, whose indomitable courage had made it possible, gathered to witness the historic occasion. Telegraph wires were connected so that the news of the blows of the sledges could be flashed to all parts of the United States simultaneously. Three spikes of precious metal were selected close to the connecting link; one was of silver, gold, and iron from Arizona; another of silver from Nevada; and the third of gold from California. Beside the track stood President Stanford, president of the railroad and governor of California. In his hands he held a silver sledge, ready to deliver the first stroke. The second blow was struck by Vice-President Durant; succeeding blows were struck by distinguished guests, until finally the spikes were driven home by the chief engineers of the two roads. Two railroad engines, which had been waiting for the welding of the tracks, advanced, and the engineers joined hands with each other as they came together.

The nation could hardly restrain its joy. In San Francisco the blows of the sledge were repeated by strokes on the city hall bell and the last blow was a signal for the firing of a cannon from Fort Point. It was a gala day for the Pacific metropolis, which had thus been virtually lifted and placed within a three days' journey of the Atlantic Coast, instead of three months. Omaha was raised from a frontier post to a great halfway point between the East and the West; its citizens gave vent to their joy in monster parades of all its civic organizations, while a hundred guns

GREAT AMERICAN RAILROADS

boomed on Capitol Hill. Chicago held a procession more than four miles in length. New York fired a salute of a hundred guns, while in Philadelphia the historic tones of the bells on Independence Hall rang out the glad tidings. It was a great national event, in which all the large cities joined in memorable demonstration.

No man at that time had any comprehension of the great empire of wealth which was to arise on sand and wilderness. It was hardly conceived that great cities might spring up along the way. There was one exception: it was Asa Whitney whose prophecy has come true in the space of a few decades, and "the railroad has changed the whole world" in many respects. It gave Europe a means to send its goods to the Pacific coast. It opened an avenue for the silks and spices of the Orient to reach the Atlantic States. It served as a pattern for the great transcontinental railroads which now exist across Europe and Asia, and which are even being forged through the heart of Africa.

But the greatest change came when the once despised Great American Desert blossomed into the great granary of modern civilization. Mighty commonwealths arose as if by magic. It will be remembered that, when this territory was bought from France for the sum of \$15,000,000 in 1803, the statesmen raved for decades about the wicked extravagance. Could they have looked through the curtain of the future, and seen the great cargoes of produce being brought out of this wilderness, their ranting would have changed to pæans of joy. From the single State of Nebraska, bordering on the Missouri River, the crop of alfalfa hay alone equaled in value in a single year the amount of money Napoleon received from the United States for the Louisiana Territory.

Let us take a hasty tour through these States west of the Missouri River and see what they are doing to repay the price of their birthright. First on the tour is Nebraska. Looking in her tax books, we find that the real and personal property in this commonwealth is valued at \$600,000,000—and this is based on a one-fifth valuation; in other words, "that region of savages and wild beasts," as Daniel Webster called it, is worth three billion dollars. Next comes Kansas, "the treeless plain," which in a single year produces farm products and live stock valued at nearly \$500,000,000. Adjoining is Colorado, once the despair of statesmen, which in the space of a half century has disgorged from her beautiful mountains more than a billion dollars in gold, silver, lead and copper; and still, if all these mines were shut down, the State would be independently rich in her agricultural products.

We will now visit the tier of States along the north. We find Wyoming, seamed with coal veins and saturated with oil, but still standing

forth among the Western States as a mammoth producer of agricultural products and livestock, the former bringing in a recent year ten million dollars more than the whole Louisiana Territory cost the United States. Utah is a modern garden spot on which flourish great empires of sugarbeets, mammoth communities of beehives, sweet scented forests of fruit trees, while out of its bosom pour streams of gold, silver, copper, lead, zinc, and coal, whose total valuation in one year reached nearly twice the purchase price of the whole "wilderness." Then there is rugged Idaho, which added in a single year nearly \$100,000,000 to the wealth of the nation. Along the Canadian border is Montana which digs from its bosom, and clips from its sheep, each year a fortune valued at more than \$75,000,000.

Bordering the Pacific are three mighty commonwealths, Oregon, whose name was long mentioned in sarcastic terms in the National Congress, is to-day a cornucopia pouring forth its wealth. The value of the lumber in its forests is estimated at the colossal figure of \$3,500,000,000. Oregonians tell you that "half the world comes to us for lumber." Washington, a still younger State, is able to exhibit an overflowing exchequer. Her tax books show that in a recent year she had a total property valuation of nearly \$800,000,000; she, too, is part of that "rockbound, cheerless and uninviting coast," which Daniel Webster, in a speech before the United States Senate, declared to be "without value." The third and last of these Pacific commonwealths, on our hasty journey, is bounteous California. It would seem unnecessary to recite the wealth of this State. Its taxable property alone is estimated at \$2,300,000,000,000; and

it pours out its riches in sums that stagger the imagination.

This is a glimpse of the great commonwealths which lie west of the Missouri; this is the dominion which wise men once proclaimed to the world as "worthless." This is the region that was pronounced from the seats of the mighty as a region of savages and wild beasts, of deserts, of shifting sands and whirling winds, of dust, of cactus and prairie-dogs—the region that was reclaimed by the railroad. The average American does not fully appreciate what a mighty railroad system he has in this country. If all the main track railways in the United States were welded into one continuous system, it would reach to and extend a distance of 100,000 miles beyond the moon, which is some quarter of a million miles away from our earth. If this main track railway system were laid around the earth at the equator, it would form nine tracks of equal length, over which nine of the fastest engines, traveling at the topmost speed ever attained (115 miles an hour), would complete the circuit in about nine days. The rails of a railroad are but a single item in its equipment.



SUNSET ON "DEAD SEA OF AMERICA"—This is a glimpse of the Great Salt Lake in Utah— It is 80 miles in length and 30 miles in width—The lake lies in the heart of a vast inter-mountain plateau.



MAMMOTH HOT SPRINGS IN YELLOWSTONE PARK—"Helf's Half Acre," a steaming abyss about 30 feet deep in limestone formation—Nearby is a boiling lake which bubbles in beautiful colors.



UNDER THE PARMS IN FLORIDA. It is the land of flowers, tropical fruits and perpetual summer—Here Ponce de Leon landed on Easter day in 1513 on his search for the Fountain of Perpetual Youth—This State alone is larger than the Kingdoms of Greece and Belgium combined.

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Mighty forests have been cut down to supply the ties on which the rails rest. If it were necessary to transport all these ties to Europe—there are about 900,000,000 of them—it would require the services of all the sailing and steam vessels flying the American flag, and each ship would carry a cargo consisting of 34,000 each. And the spikes which secure the rails to the ties—there are enough to supply each living individual on earth

with two apiece.

There were 509,000 miles of railroad in the entire world in 1913, and of this mileage 234,000 miles or about 46 per cent. are in the United States. In that same year, Congress passed a bill providing for the valuation of our railroads. At that time it was estimated by the railroad statisticians of the country that the railroads were worth \$19,000,000,000. But so enormous is the task that Congress was asked to make an appropriation to do the work—it is said that before it is finished it will take \$20,000,000. So to actually make an approximately correct valuation of the railroads of this country will require enough capital to build a great railroad. Every piece of property is to be listed and used. This means a literal count of the ties, rails, coupling pins, cars, buildings, original cost of production and cost of reproduction, franchises and other

property.

American roads carried 1,034,081,346 passengers in 1914. That is nearly two-thirds of the number of people inhabiting the whole globe. The American railroads carried a sixth as many passengers as all the rest of the railroads of the world, though the American people constitute only about one-sixteenth of the world's population. These same roads carried 264,080,745,058 tons of freight one mile. To do this work these roads had in their service 51,490 passenger cars and 2,331,184 freight and other cars. Of these latter there were 1,700,000 freight cars. There are enough cars to give one to every inhabitant living in Norway; or enough to form a grand pageant on the railway to the moon, allowing ten cars to every mile of track. The modern passenger coaches cost from \$8,000 to \$16,000 each, and the luxurious Pullmans sometimes cost as much as \$30,000 apiece. It required nearly two million persons to operate them and they paid dividends which exceeded more than \$100,-000,000 the amount of money which the people of Switzerland had in their communal and private banks. These cars would make a train 5,682 miles in length and would reach from San Francisco to New York and back almost to Denver. If each car were loaded with 10,000 pounds of freight it would take 42,500 locomotives to pull the train. If each passenger coach carried fifty people, 2,574,500 passengers could travel on the passenger train. The whole city of Chicago could travel on that train,

and Boston, Baltimore, Cleveland and St. Louis could all get aboard, but the head locomotive would be in Washington before the locomotive at the rear had reached New York. All this gives a bird's-eye view of the great railroad capacity of this country.

These facts are the more marvelous when we consider that the rail-road had its birth but about three generations ago, beginning historically with the pioneer steam railway stretching fifteen miles westward from Baltimore, and in the same year that Webster first published his dictionary (1828). There were other railroads in the United States at the time, notably the one in Massachusetts which, operated by horse-power, drew granite from the quarries at Quincy to the Neponset River. In the light of present day achievements, it is curious to learn that the railroad was considered a visionary idea in its beginning, that few men were so venturesome as to admit that it ever could successfully compete with canals, the favorite of that day, for freighting purposes. It was the state engineer of Virginia who solemnly declared "that a rate of speed of more than six miles an hour would exceed the bounds of prudence, though some sanguinary advocates of railways extend this limit to nine miles an hour."

Before the Nineteenth Century, mankind had to depend upon their own feet, or the back of a horse, or, in some more favored cases, upon a wheeled vehicle, to traverse the earth. When we consider that when Napoleon hurried his armies over the Alps, just before the dawn of the Nineteenth Century, he used about the same means of transportation and did not exceed the speed made by his illustrious predecessor, Cæsar, over the same route with his Roman army in the days preceding Christ's appearance on earth, you will understand what the railroad means to modern civiliza-

tion in the matter of abridging distances.

It required about two and a half centuries for American civilization to extend inland from the Atlantic to the banks of the Missouri River, virtually traversing the distance afoot, or at best, on horseback. But with the aid of the railroad, after it had come into general use, it swept on over the Missouri and within a few decades had converted the forbidding wilderness to the westward into a domain of prodigious wealth and culture, carrying colonization clear to the distant shores of the Pacific.

The benefits accruing to the Americans from their railroads are beyond calculation. Let us regard it in the light of what Macaulay said about abridging distances. When we reduce the time of travel between cities, we virtually reduce the intervening distance. By this measurement let us compare travel in the United States in the Eighteenth Century with that of the Nineteenth or Twentieth. Up to within a few years of the beginning of the American Revolution, it required about thirteen

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days of laborious and perilous travel to go from New York to Boston. In this time the modern traveler could make the round trip between New York and San Francisco and still have a week left over in which to view either of the great cities. Then it required about thirty days to travel from Baltimore to New Orleans; to-day it is a journey of as many hours. From Massachusetts to North Carolina the modern train schedule reads twenty hours, instead of twenty days of the early Nineteenth Century.

We are living through the mightiest age that the world has yet known. In the span of a single life of four score years, the world has awakened from its slumbers like a mighty giant and shaken off the habits and customs of the centuries. Knowledge, plenty and beneficence abound. The earth's dark and silent places are now known and mapped, and are visited in luxury and safety by the tourist. The things that a generation ago only those of wealth could hope to own or see are to-day the common heritages of the modern laborer.

The world has been made over again in the last generation. The modern locomotive literally picked up our western frontier along the Missouri and carried it on its pilot to the beating surge of the Pacific. It has magically touched barren spots in the desert and created populous and rich cities and farm lands. It has hurtled over or through mountain ranges, or across deep roaring rivers or broad bosomed inland seas, while drawing behind it palatial traveling coaches ladened with human freight.

How long could our great cites, our rural districts, our mighty industries and vast commercial interests exist without the railroad? The locomotive carries modern civilization upon its pilot. A few hours' cessation of its ceaseless energy and millions of people would be in idleness and want. The wheat of the field, the produce of the farms, the products of the factories would be useless and unprofitable. These steel machines must keep in never-ending motion to sustain and strengthen modern civilization, to banish distances, to spread the mails and knowledge broadcast, to mold the whole land into a neighborhood and make possible the modern business world.

America Gave the Steamship to the World

HEN, there is another modern miracle in the science of transportation—it is the steamship. Without it, the nations of the world would still be groping in comparative ignorance, poverty, and peril. With it, the world has been re-modeled, reformed, and enlightened. Together with the railroad, it has formed a girdle around the earth. It has linked the continents so that man in safety and luxury can circumnavigate the globe to-day in about the same time it required post-riders to

bring the news of the battle of New Orleans to Washington a hundred years ago. It has, as if by magic, converted the great rivers of the world from mere streams of running water into vast throbbing highways of commerce and travel which are building up the wealth of nations and individuals.

If all the ships sailing under the American flag were formed for review there would be a grand pageant of more than twenty-six thousand vessels. More than half of them would be propelled by steam. This vast fleet of ships would have a combined gross tonnage or capacity of nearly

eight million tons.

The steamship has proved the conqueror of the seas. Great leviathans, measuring nearly nine hundred feet in length, dash across the oceans at the rate of an express train. A mighty fleet of luxurious floating palaces plies between Europe and America at a speed so great that a traveler can eat a farewell lunch in London on Saturday and dine in New York on the following Thursday. Less than a century ago there was not a steamboat afloat upon the open sea. Measured by the speed-standards of to-day, America was nearly seventy thousand miles away from Europe in the days of Henry Hudson. Or in other words, in the time required by Hudson's Half Moon to sail from Amsterdam to New York, a modern ocean liner could sail a distance of nearly seventy thousand miles, or circle the globe nearly three times.

The story of man's early attempts to conquer the seas is more interesting than fiction. He first paddled across a stream on a log; later fastened two or more logs together to form a raft; then he hollowed out the log and made a dug-out. Then came canoes made of bark or skins stretched over a framework, and finally ships built by carpenters. The first use of oars as power began in the earliest Egyptian vessels, dating back to 100 B. C.; they had as many as twenty-two oarsmen on each side of the vessel. Then the Phænicians added decks to their vessels. The height of shipbuilding seems to have been reached in the reign of Ptolemy Philopator, when tradition tells about a forty-decked vessel, which registered 11,320 tons. Then sails were added by the Phænicians, to force the winds to relieve the muscles of the men at the oars.

In the Twelfth Century there came an impulse which set the shipping circles agog, and the period of exploration began. It was the discovery and general adoption of the compass by Europeans. It is said, however, that the Chinese were familiar with the instrument more than two thousand years before Christ. With this wonderful little instrument to guide their ships, the mariners became bolder and ventured out into the mysterious oceans. This resulted in the great discovery of the New World and other



BATTLE ON LOOKOUT MOUNTAIN IN AMERICAN CIVIL WAR-This fierce combat known as "The Battle in the Clouds" was fought on November 24, 1863—Federal army charged up Rocky Precipice, 1,700 feet above the valley.



BIRTH OF THE IRONCLAD BATTLESHIP IN WORLD'S HISTORY—Historic conflict between the Monitor and the Merrimac, on March 9, 1862—It was the beginning of a new era in naval warfare—This was followed later by the first submarine.





MEMORIAL TO THE GEOLOGICAL AGES-Here we look upon the weird figures carved in the rocks by Father Time in the Grand Canyon of Arizona.

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great voyages of exploration. Then began the tide of immigration into America. The voyage was one of peril, with death, starvation, and sickness always present. It was a voyage which required on the average three

months of extreme hardship.

Sails and oars served mankind well for many centuries, but now his needs demanded a new motive power. There were many weird and crude ideas suggested. One was to adapt the treadmill to a boat, worked by either man or beast and attached to paddle-wheels slung over the side of the vessel. These attempts to conquer the wind were met with storms of disapproval. The good people declared vehemently that it was sinful and an insult to Divine Providence to drive a vessel against wind and tide. The inventor's ideas were met with ridicule.

It remained for the Americans to solve the problem. Four patents were granted to inventors before the nation was two years old. The first of these was John Fitch, who contrived a crude steam vessel, appearing much like a many-legged spider walking on water. His craft traveled up and down the Delaware River for three months in 1793 at the rate of thirty miles in thirteen hours. Eleven years later, Colonel John Stevens appeared on the Hudson River with a twin-screw steamer which sped across the river at the rate of six miles an hour. Four years later, he startled the world by launching a paddle-wheel steamer and sailing through the open sea from New York to Philadelphia—the first successful attempt in the world of a steam driven vessel to ride the boundless ocean.

It was in 1807 that the event occurred which was destined to point the way to the revolution of the world's commerce as well as the world's navies. It was in this year that the historic Clermont, the product of the brain and energy of Robert Fulton, was launched, amid jeers of ridicule and disbelief, at Corlears Hook Ferry, and began her momentous voyage up the Hudson River to Albany. From stem to stern she measured about 150 feet, and was "a monster moving on the water, defying winds and tides, and breathing smoke and flame." Her motive power was furnished by a steam engine connected with paddle-wheels hung over The Clermont performed the miracle of traveling the 150 miles which lay between New York and Albany in the remarkable time of thirtytwo hours. It would have required seventy-five days for the Clermont to cross the Atlantic ocean. The fastest modern liner, six times as long and six times as broad, carrying 480 times as much freight and more than a thousand passengers, has crossed the Atlantic in four days, ten hours, and fifty-one minutes.

The world was slow in placing faith in a new miracle of the seas. Five years elapsed from the launching of the Clermont before the first

steam-driven ferry-boat crossed the Hudson between New York and New Jersey; ten years before Boston saw the first steamboat enter her harbor; eleven years passed before the first steam vessel sailed from Buffalo through the Great Lakes to Detroit; and it was twelve years before the first ship set forth upon the world's first transatlantic voyage under the

power of steam.

The first steamship to sail from America to Europe was the Savannah, a sailing packet equipped with an engine, boiler, and iron paddle-wheels. She slipped from her moorings at Savannah, Georgia, on the 26th day of May, in 1819, and sailed down over the horizon. Twenty-five days later, a fleet of three-decked, wooden-sided, and sail-propelled men-of-war and stately merchant ships, cruising off the coast of England, was startled at the apparition which appeared in the waters before them. Through a set of yellow sails came clouds of pitch pine and coal smoke. The decks of the watching ships resounded with the cry of "Fire." When they read the signal flags of the Savannah, they were nonplussed to learn she was not afire, but was sailing under her new power—steam. They watched her curiously as she slipped gracefully by and headed in toward Liverpool.

The story of the ocean steamships is the story of progress. Modern science has replaced the old wooden sides with massive sheer walls of steel. The decks have been increased in size and number until to-day a modern ocean liner resembles in effect a modern hotel, in which its passengers are transported from deck to deck by elevators. The bows have drawn further and further away from the sterns, until now the whole vessel measures nearly a thousand feet in length; if stood on end, one of them would overtop the highest office building in the world. All the luxury of the ages, as well as their necessities, has been gathered and incorporated into the interiors of these ships, until they are veritably floating cities made of all the splendor of ancient despots.

There are hundreds of communities in our nation whose total population could be transported across the Atlantic in a single one of the vessels, whose passenger capacity is estimated at over 4,000 persons. These passengers have at their command all the comforts of home. One of the latest ships has a chapel, in which religious services are conducted, while theatres, stores, tailor shops, gymnasiums, ballrooms, and a score of other traces of modern life are to be found on nearly all our ocean liners.

The largest passenger-carrying river steamships in the world are on the Hudson. They carry 6,000 persons on the historic route between New York and Albany. The steamships on the Mississippi River and the Great Lakes have been important economic factors in the development of the interior dominion of the American continent. The coming years will witness a great development of our inland waterways.

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American Continent a Network of Street Railways

HIS chapter on transportation must give consideration also to the economic value of the street railway. The street car is the modern magician that has threaded its way through our thoroughfares and united our towns and cities; it has formed a gigantic network over our states over which we may travel in nearly any direction at any moment of the day to any desired destination. It has done more than this—it has broken down the barriers that so long held our towns and villages in seclusion and has transformed them into modern, progressive communities. It has linked them to the great outside world and has made them an important part of it. It was only a few years ago when the only way to get out of town was to walk, or to take the old stage coaches. Then came the omnibus to carry us from place to place within town limits.

The first street railway proper was put in operation in New York in 1831. Horses were used as motor power, but the omnibus gave way to a sort of carriage that ran on rails. These rails consisted of timbers resting on edge, the upper edge covered with a strip of metal. The horses were displaced by crude steam-engines in 1832, but they were so unreliable that in 1845 the horses were again employed. The horse car developed from this innovation, till finally our grandfathers came to look at the jolting, rattling, bobbing contraption as a great convenience. The idea was thus born in New York and taken up by various other American cities as well as the cities of Europe. Philadelphia tried it first in 1857.

The French called it "the American railway."

In many American cities, nature helped along the development of the street railway. Some American cities, notably San Francisco and St. Louis, were so hilly as to make the ordinary railways almost impossible. Other means were sought to propel cars, and, in 1873, Andrew S. Hallidie equipped the Clay Street Railway of San Francisco with a cable-car system. A slot was built between the two car rails, and in this a heavy cable traveled along. The cars were equipped with "grips" that could catch hold of this traveling cable, and the vehicle was carried along with it. When it was desired to stop the car, the grip released its hold on the cable and the car ran "dead." With the coming of the cable-car, people first raised the now familiar cry, "The horse must go." St. Louis, Chicago, Kansas City, Philadelphia, and New York adopted the cable system. There were 700 miles of cable car railways throughout the United States by 1894. But their many disadvantages, arising chiefly from want of proper control, soon led to their abandonment.

There was erected in 1872 what was regarded as a "freak" railway

in New York—the elevated railroad. Its freakishness lay in the fact that its rails were not placed on the ground, but rested thirty feet or more above it on an elongated or continuous bridge. This was the first of its kind in the world. Soon there were about forty miles of elevated railroad on Manhattan Island alone. People were slow in taking to this new method of transportation, because of its insecure appearance, but gradually New Yorkers came to depend almost entirely on them, in spite of their noise and dirt. Chicago and Boston have been the only other American cities to adopt elevated railroads. Paris, Liverpool, and Berlin also adopted the idea.

The American cities, however, were still dependent on the older methods of transportation until 1884, when the first practical trolley-car was run in Kansas City—this is the beginning of the real era of the street railway—the era of electric power. Various attempts had been made to apply electricity to vehicles for motive power. As early as 1836, a workman named Davenport had tried it in Brandon, Vermont. His electric motor was crude, and his experiment bore no fruit. But when the mighty genius of Edison was brought to bear, success was assured. He, in conjunction with Stephen D. Field, made some experiments over a period lasting from 1879 to 1883, and, at the Chicago Railway Exhibit held in the latter year, they built a 1,500 foot system. To Richmond, Virginia, however, belongs the distinction of being the first city in the world to have on its streets a really practical, as well as tensive, electric system of cars, when F. J. Prague installed thirteen miles of electric railway there in 1884.

The growth of the street railway since 1884 has been astounding. The larger cities are crossed and recrossed by hundreds of lines. There were 1,261 miles of track in use by street railways using all kinds of power in 1890. Twenty years later there were 23,059 miles of track being used by electrically equipped systems alone, and the number of passengers carried by all the street railways of the country was 7,441,114,508. The aid that the electric car has given to business is incalculable. By its means, not only are the different parts of the city linked together, but whole regions are connected.

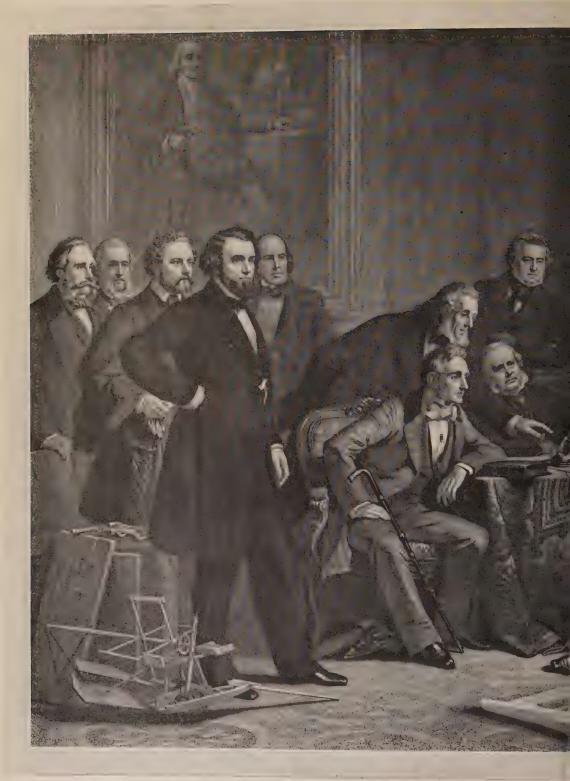
The street railway system is America's gift to traveling humanity. It has primarily proved of immense advantage to ourselves, who live in a country of vast distances. But from Petrograd to Capetown, from Tokio to Rio de Janeiro, wherever, in fact, civilized men foregather in large numbers—the street railway is daily ministering to the necessities and the pleasures of the people.



FROPICAL BEAUTY OF AMERICA—Along St. George, Florida—This beautiful Land of Flowers contains 4,440 square miles of lakes, lagoons and rivers—Its coastline, including islands, is 1,145 miles long—Its greatest river is St. John's.



GLIMPSE OF THE WHITE MOUNTAINS—New Hampshire hills culminate in Mount Washington, 6,270 feet high—Largest of its lakes is seventy square miles and contains 264 islands—This region has been immortalized in art and literature.



GREAT AMERICAN INVENTORS AND SCIENTISTS—This rare engraving by John Sartain brings us before the genius that has revolutionized the world—American inventive skill and scientific discovery have brought forth the modern era of civilization—The American race is the most creative



PORTRAITS OF EPOCH BUILDERS—Here we look upon Morse, the inventor of the telegraph; Howe, inventor of the sewing machine; Dr. Morton, discoverer of anaesthesia; McCormick, inventor of modern agricultural machinery; Goodyear, discoverer of the vulcanizing process in rubber; and many others.





IRON MINING IN AMERICA—We produce more than 35,000,000 tons of iron—Nearly twice that of Germany and more than three times that of England. COPPER MINING IN AMERICA—We produce more copper in a year than all the balance of the world—More than 1,000,000,000 pounds—We employ more than 80,000 miners.

PART IV CHAPTER IX

GREAT AMERICAN MINES

The glorious sun
Stays in his course, and plays the alchymist;
Turning, with splendour of his precious eye,
The meagre, cloddy earth to glittering gold.

—Shakespeare.

OTHER NATURE is surely bountiful in the riches that she has deposited on the American continent. There is no place on the face of the earth where she has been more generous. The legends of the ancient argosies and the trail of the golden fleece are all brought into realization on the Western Hemisphere. Here, we find the wealth of Croesus many fold. The mountains and rivers bring forth gold and silver; the breast of the earth is nourished with coal and iron and ores. Rich veins run through the rocks like blood vessels in the human body.

The future of every nation is not alone in its form of government or in the genius of its people—these are insufficient in themselves. Man cannot develop himself without the complement of nature. All riches begin in the earth. The chief asset of every people is first in the resources locked within the ground which they occupy; and secondly their skill and industry

in developing these natural resources.

The American people have become a powerful race because they have had the raw materials at their command and the energy and industry to utilize them. The inexhaustible wealth of the continent has given them large opportunities—and wealth is largely a matter of the utilization of opportunities. We have built our system of civilization on solid earth—bed rock. It is not a theory in economics, nor an ideal in philosophy, nor a vision of æstheticism—it is erected on the adamant foundation of the geological ages—the science of mining and agriculture. In this chapter we will visit the great American mines and assay our natural resources. We shall see that we have built civilization not on shifting sands but on foundations as indestructible as the mountains. Every dollar of riches that we may display in our social system is but a feeble expression of the illimitable riches behind it in the rock-ribbed vaults of the earth.

We have erected a democracy, but underneath it is a kingdom of precious metals and ores more regal than any of the ancient oligarchies—

and more despotic in its control over our welfare—heat, light, transportation, are servile to the kings that from their subterranean thrones rule humanity.

America is a mineral crowned king to all the world. America, years ago, took King Coal's crown from his merry old soul in England and brought it over here where it is likely to remain as long as men fire furnaces. This country now digs from its mines annually 600,000,000 tons of coal. This coal is worth at the mouth of the mines \$800,000,000. There is no single instance in all our records as a people that more illuminates the character and progress than our leaping and bounding increase in the output of our coal mines. We have doubled the output in fifteen years and have mined more than eight times that of twenty-five years ago. We are now increasing the output from 35,000,000 to 50,000,000 tons every year and with the opening of the Panama Canal we are fast on the way to furnishing the world with the cheapest fuel it has ever known.

Nearly 800,000 men are employed in our coal industry. If a single horse-power can be produced from the burning of two and one-half pounds of coal in a furnace, it will at once be seen how enormously has our coal output increased our power engine capacity. The gas engine has increased the horse-power of coal fifty per cent. at least within the last fifteen years. Our 600,000,000 tons of coal, if it could all be put into one furnace and fired, would produce enough power to drive this planet out of its orbit if it could be directed against it. The geologic survey claims to have scientifically uncovered 15,000,000,000,000 tons of coal in Alaska and there is treble

that much in the United States proper.

Coal is buried power. The mammoth ferns and club-mosses of the Carboniferous Age gathered the sunbeams, storing the carbon they brought to them, and finally were submerged during the writhings of the forming earth under masses of sand and rock and silt. Thus the Creator deposited in our little planet His sunbeams, so that when our earth had become one of varying climates and seasons (in the Carboniferous Age there were no seasons nor changing temperatures), man would have a fuel to warm his body and power to assist him in his mighty achievements. The abundant forest trees supplied the ancient with sufficient fuel, so they did not need coal. Twelve centuries after the birth of Christ mankind began to use such coal as could be found in England and a few other civilized countries. Americans did not begin their great coal industry until about the dawn of the Nineteenth Century. Coal had been known long before then; Father Hennepin had accidentally discovered it along the banks of the Illinois River in 1679; forty years later, a Virginia boy discovered some in his native state; and a Pennsylvania hunter, by the name of Ginter, found some

under an up-rooted tree. Its first use was discovered by Obadiah Gore, who burned coal in his smith-forge in Wilkesbarre, in 1769, and Judge Jesse Fell used it in a grate to heat his room in 1808. This was the genesis of the American coal industry.

At the first centennial of the American coal industry, dating from Judge Fell's discovery, there were more persons engaged rescuing "buried power" in the United States than there were Americans earning their livelihood as teamsters, hackmen, draymen, and the like. A coal-driver blocks the wheel of his cart with a lump of coal. There is enough energy stored in that lump to hurl his cart to destruction. That lump, if it weighs exactly one pound, contains enough sunshine-energy to lift forty-seven tons one hundred feet in the air in the space of a minute; it is capable of running an electric car, filled to capacity with passengers, for a distance of two and a half miles at the rate of twenty miles an hour; or it would propel a train of six ordinary coaches and a heavy Pullman and sleeper one-sixth of a mile at the rate of twenty-five miles an hour. That one-pound lump of coal could perform in one minute all the work that five powerful men could accomplish in eight hours—it would require the united efforts of 2,800 men to accomplish as much work in a minute as the lump of coal can do. It is

the great labor saver of civilization.

That is the power of coal. By it we are enabled to live through frigid climates and seasons, to erect gigantic structures, and to journey to all parts of the earth, either by land or sea. Coal mining is a battle of giants, human and elemental. Man is the general, and electricity and compressed air make up the ranks in this warfare. Let us visit our great Pennsylvania coal districts. We enter the elevator cage and descend to the bottom of the main shaft-one mine is more than a thousand feet below the surface. Here we step out into a vast subterranean house, divided into corridors which lead to various rooms. Along these corridors, kept ventilated by huge fans and connected with each other by telephone systems, rumble what appear to be miniature electric trains, conveying the coal to hoisting buckets. On the return trip, one of these electric engines will carry us into the depths of the mine, whose intense darkness is partially relieved by the patent lamp upon our caps. Arriving at the working face, we find the miner, operating an electrically driven machine, whose series of knives set upon an endless chain gash and tear at the coal vein. In another room we find another miner drilling holes in the face of the vein with a compressed air machine, making ready for the blasting charges. As we attempt to enter another room, a miner suddenly appears out of the darkened depths to warn us of a blast. His comrade pushes the button of an electric battery, and the electric impulse darts along the wires into the

mass of blasting powder. A muffled roar and tumbling earth tell their own story.

As we return to the surface let us follow a load of coal as it is sent to the breakers to be broken into marketable sizes and cleaned. First it passes through the screen made up of bars about six inches apart to another screen whose openings are about three inches apart. It is on these screens that the coal is cleaned, boys picking out the slate and other foreign elements. Then it passes onward, being alternately run through rollers to be broken up into small sizes and then to screens to be cleaned. When it emerges, it is in various forms familiar to the housewife, the furnace man, and the engineers.

But King Coal would never be at home in America without his forge. The earth must hold much of him in its dark bosom till the coming of King Iron. This latter King left his old throne in England and moved to America about the same time King Coal did. At once Europe grew uneasy, for she had lost two old kings that had given her long primacy in the world's markets and America at the same time became a world power. Our great corn, wheat and cotton kings are international monarchs, but when the black diamond and armor kings set up their thrones among us,

Europe became anxious. She began to study us with new eyes.

The United States produced 35,500,000 tons of iron and manufactured 31,000,000 tons of steel in 1914. Germany, our nearest competitor, produced 19,000,000 tons and England, so long the maker of the world's steel, stands to-day at 10,000,000 tons. We make more steel than both of the two greatest industrial centers of Europe, and all around the world stands our steel bridges even in the territories of our competitors. Our steel has made it possible for Russia to span Europe and Asia with the trans-Siberian Railway. It has made the Cape-to-Cairo project a practical dream. The world's great navies of superdreadnoughts never could have been realized until America's furnaces had reduced the price of steel. The prices of the steel armor in the big ships to-day would have sunk the ship thirty years ago.

But the greater part of this enormous output of steel went into the framing of houses in our great cities. There are far over 50,000 new steel framed buildings in the hundred biggest cities of this country and they are rising by the hundreds every month. Our steel has given the world the elevator, reduced fire insurance, and raised the skyscraper. What would the world be without America's cheap coal and steel for

power, for bridges, for railroads, for cannon, and battleships?

Iron is the most wonderful of the earth's natural treasures. Its presence can be traced in every phase of life. The food we eat has been



GREAT QUARRIES OF THE UNITED STATES—There are more than 6,000 quarries in this country, with an annual product valued at over \$100,000,000—Some of the most beautiful marble, granite, and limestone in the world comes from America.



OIL INDUSTRY IN THE UNITED STATES—America is the world's oil king—Its output exceeds 10,000,000,000 gallons a year—Value of refined product is nearly 2,000,000,000 a year—It employs a vast army of men and has created stupendous wealth.



FISH INDUSTRY IN UNITED STATES—America produces more fish than any other country in the world—Annual catch is valued at \$70,000,000—It gives employment to 215,000 persons—Government and State commissions have stocked the streams of this country.

cooked in iron utensils. The clothes we wear have been made by iron machinery. The houses and offices we live and work in have been built by and of iron. Our vehicles, over land or sea or in the air, are made of iron. In fact it is everywhere—in your veins, in the satin ribbon, it tinges the

rosy skin of the apple.

Iron has always existed; when it was first discovered, or who was the discoverer, is unknown. The story reaches back into the dim twilight of man's existence, where shadows and realities are inextricably mingled. Amid these shadows stands forth the figure of Tubal-Cain, turning iron into agricultural instruments and weapons of war, hundreds of years before the flood swept the earth, and about six generations after Adam. Many centuries later, we find Og, King of Bashan, sleeping upon an iron bed-stead; and still later we find that the Israelites have been promised, as especially desirable, a land whose stones are iron. We see that the bridge builders of Babylon fastened huge stones together with bands of iron, fixed in place by molten lead.

When iron becomes record, and not mere conjecture, we find frequent evidence of the use of iron. We also find that it was held as too valuable a metal for ordinary uses, King Og's bedstead being considered the height of luxury, just as a bedstead of gold would be to-day. Therein lies the magic of my story. By the wonderful methods we have of mining the ore and of refining it until it is suitable for our purposes, we of the modern generations can produce a metal for the most humble uses much cheaper than any other ordinary metal. Who to-day would consider wearing a

necklace or a ring of iron, as did some of those ancient belles?

Iron mining has flourished in more than half of the commonwealths forming our United States at some time during their history. As one deposit was exhausted, or as a new and richer deposit was discovered, the miners moved onward. To-day the center of the industry rests around Lake Superior, and the State of Minnesota is the greatest producer. The American iron-workers—there are about a million engaged in all branches of the iron and steel industry-produce about a billion dollars' worth of ore every year, or more than a third of all mined throughout the world. The miners in some of the Lake Superior "pits" look as if they were pigmies to spectators at the mouth of the shaft. The mines near Vermillion Lake extend more than 1,000 feet into the bowels of the earth, where the miners are digging out hard-ore and sending it to the surface in huge buckets. In another district the miners look like human moles burrowing under the earth, until they have reproduced a rabbit's warren. Then they blow this up with blasting powder, to secure the precious ore. Great ore-ships take most of the ore from the mines to the iron and steel centers, where it passes

through the smelting process. Pittsburgh is to-day the largest center in the world. There one will find mammoth furnaces—great cones, lined on the outside with masonry and on the inside with steel jackets, between which a constant flow of water passes. They stand ninety feet above the ground, and at their tops are conical caps, also kept cool by circulating water. Through these the ore is dropped into the fiery interior, whose heat averages about 550 degrees. As the gases generate, they pass off to an engine which utilizes them to heat the blast of the furnace. The fierce flames melt the ore, separating the dross from the iron. The latter passes out through one side of the furnace into sand channels to cool into "pigs," while the dross or "slag," passes out in another direction. This is the iron that one will find in myriad forms in every-day life, in telephone, or tea kettle, mowing machine or locomotive.

Then comes King Copper—without this Bronze King for carrying the words of men into ten million telephones and telegraph receivers; without copper for conducting the electricity of this globe it would be lame and halt. The great modern city, and indeed civilization, would be as impossible without copper as it would be without iron and coal. The whole electrical industry of the last thirty years could never have come into existence. The United States produces more copper in a year than all the balance of the world. Europe depends largely upon America, including Mexico and Alaska, to furnish the world with the wires of the electric lights, telephone and telegraphs. Our production was 600,000 tons in 1914. We might symbolize this great quantity of copper by stretching it into a wire and girdling the earth ten times with it—a 250,000 mile wire.

Man has come nearer to the center of the earth in copper mining in Michigan than anywhere else. Here a copper mine shaft penetrates more than 5,000 feet and is the doorway to a vast subterranean city having more than 200 miles of streets, which are lighted by electricity. Electrically propelled cars and elevators carry the "citizens" of this city under ground, while electric and compressed air drills carry on their industry. What is being done in Michigan is true of many of our Western States, notably Montana and Arizona, though the mines in the latter regions are not quite so deep as these ancient Lake Superior mines. It was this district which lured the first French explorers from Quebec, when America was being settled.

There are more than 80,000 copper miners and smelters in the United States, and we are producing more than 1,000,000,000 pounds of copper every year. We get nearly a third of this from the Arizona mines, with the Montana mines standing second. Altogether, the copper mines of the

United States yield more than half of the world's total supply. These mines are producing every twenty-four hours more copper than was mined in a twelve month just prior to the American Civil War.

The Bessemer process has revolutionized the copper industry. Hours have become minutes, so to speak. To-day copper ore fed into a furnace in the morning can be shipped as 99 per cent. pure metal by evening. The old-time methods required about four days. The old-time roasting stalls and furnaces, covering many acres, have shrunken to a Bessemer furnace and converter covering a plot about twenty-five by one hundred feet and capable of producing 1,000,000 pounds of copper a month. By the old methods, one ton of ore required a full day's labor; by the new processes

one day's labor reduces four tons of ore to fine metal.

We now come to oil. In America, petroleum is written as one of the great industrial dramas of the world. American petroleum has the fire of passion in it, and it has done more to impress the power of the United States than all our industries put together. It created the idea of the great American corporations and it has been classified with the Napoleonic government in its centralized power. It was a one-man genius, a one-man government, and a one-man power, and by its efficiency America has long been the world's oil king. The oil output in the United States was 10,500,000,000 gallons in 1914. That is enough to float a half a dozen of the largest superdreadnoughts in any navy. If all that oil were put into one lamp burning a thousand candle power it would last till Doomsday.

The oil industry of this country is supplied from more than a thousand wells and reservoirs in Pennsylvania, the Mississippi Valley, and Texas. Twenty-five thousand miles of pipe line convey the output to the great refineries. At these refineries more than 4,000,000 barrels are manufactured annually and some 40,000 oil cars are shipped daily. An army of employees are engaged in this business and \$1,800,000,000 is the value of the refined product. Laden oil-trains rush across the continent, with their long trains of cars. Steamships ride the waves, with their tanks full, to answer the call of China and Japan and far-away New Zealand

for their supply of American oil.

The first to tell of the oil in America was Sir Walter Raleigh, in 1595. It became legendary that the New World was rich in oil. A well at Barkeville, Kentucky, yielded such great quantities of oil in 1820 that on one occasion it overflowed to the Cumberland River and seemed to "set the river on fire." It was not until 1853 that an American suggested the idea of using oil to light our homes. Far-seeing men saw in this idea a royal road to fortune. The first oil company was formed and

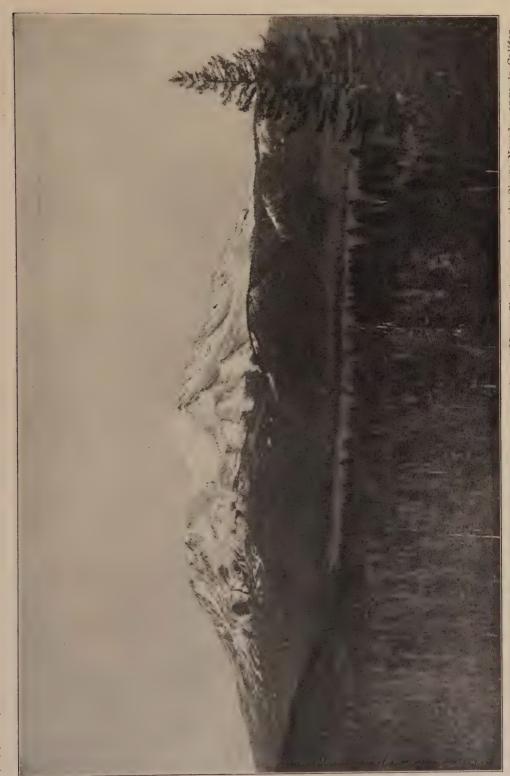
failed. The first man to be successful in mining the mineral was E. L. Drake, who came upon it through an accident. A couple of workmen were drilling at Oil Creek, Pennsylvania, on the 28th of August, 1859; they suddenly felt their tools drop into an underground cavern, sixty-nine feet down. The following day oil was "struck." This was the beginning of our modern oil industry. The first means of transporting Pennsylvania oil was by storing it in wooden casks and floating them down the Allegheny River. Later, four miles of pipe line were laid by Samuel Van Sykle at Titusville, Pennsylvania.

When the crude oil is first taken out of the ground, it is offensive to the smell and varied of color. It is then distilled at the depots from which it had been conveyed from the wells. Fraction by fraction, the mighty stores in the great wooden-shaped reservoirs are purified. From this crude oil we obtain our benzine and naphtha, which are used by freezing machines and all kinds of motors; our kerosene for light, lubricating

oil for machinery, and vaseline for medical purposes.

The value of oil to humanity can only be estimated by its multitude of uses. Enough oil has been taken out of the bowels of the earth, right here in the United States, to form a tank line around the globe-not once but a hundred times. If all the barrels of oil taken from our American soil could be lined up together, it would take five hundred cities the size of Manhattan Island (New York) to hold them. It would keep a light burning in the Statue of Liberty for billions of years. Over 265,000,000 barrels of petroleum (forty-two gallons each) are produced annually in the world. The United States leads with about 167,000,000 barrels a year. No novelist has ever lived whose imagination was so fertile as to prophecy even in fiction the growth of this industry, which is but a little over a half century old. The plain story of oil becomes more wonderful with every passing year, as it brings its report of new fields and new springs exporting their millions of gallons of oil into the vast storehouses of man. Lastly it has created colossal fortunes and has made John D. Rockefeller the richest man in the world.

The lure of civilization is gold. It lured Hercules into the dragon-guarded garden of the Hesperides; Jason and the Argonauts to the shores of the Black Sea; the Phœnicians into Spain; the Romans into Britain. Columbus braved the perils of an unknown sea for it; Cortez and Pizarro conquered Mexico and Peru in its name; Britons traveled to the Far South in Africa to capture it; pioneers overran California in search of it; Americans traveled to the Frozen North to find it. It has been the tocsin which has gathered greater armies than any battle-cry ever uttered. It has steeled brave hearts to the discovery of new worlds, and it has strength-



GEOLOGICAL FOUNDATIONS IN AMERICA—This photograph was taken at Mount Shasta, a peak on the Sierra Nevada range, in California—It is a dormant volcano, about 14.350 feet high—On its summit are three glaciers—On its slope and near the base are large trees, some 300 feet high.

GRANDEUR OF AMERICAN MOUNTAINS Here we stand in the forests of Oregon and look up to the snow-capped peaks of Mt. Hood. It rises to an altitude of 11,500 feet, the highest peak in the Cascade Mountains, a continuation of the Sierra Nevadas.

ened brave spirits into populating those worlds with marvelous cities and

empires.

This is the age of gold. We find it in myriad forms. Authorities have estimated that about one-sixth of the gold mined enters into the arts and industries, the balance being divided up into gold and bullion. Billions of dollars' worth of gold have been lost. It is one of the mysteries of the ages where it has gone.

From the discovery of America to the year 1911, \$14,308,237,000 worth of gold had been wrested from the earth's treasure haunts. Pure gold of that value would weigh about 23,725 tons. If it could all be gathered and formed into a pillar twenty feet in diameter, the top would reach within about twenty-five feet of the crown on the Statue of Liberty. Our National Treasury is a veritable gold mine itself. There is a fortune greater than King Solomon took out of his mines in Ophir. Twelve hundred tons of the precious metal are stored there and in the Sub-Treasury in New York's financial district in bags.

Gold and silver have always fought for supremacy in the money marts. From ancient times until the Seventh Century, both gold and silver were standard. Then silver assumed the ascendancy until about the thirteenth century, when gold again stood beside silver, and both metals became standard. During the period immediately following the American War for Independence, gold forged ahead and became the standard all

over the world.

The consequent demand for gold brought on a crisis. The world was in the grip of a gold famine. The golden hoards of the Incas and Montezuma had dwindled into a comparatively small stream. The Bank of England was rocking on its foundations, having more than once suspended specie payments. Eminent economists were predicting another "Fall of the Roman Empire." Then, like Moses in the desert, gold-seekers in California and in Australia magically touched the golden rocks, and, like two reservoirs bursting through their dams, two floods of gold poured out over the world. Its dazzling sheen changed the whole face of industry, altered the course of commerce, shifted masses of people, and reversed the movement of prices.

It was the dawn of the "Golden Age," which to-day holds us in its thrall. The world has never witnessed such a rush as followed the discovery of gold in California in 1848. The modern Argonauts were known as the American "Forty-niner." San Francisco was emptied of its adult population, and these gold-seekers were joined by others from all parts of the world. Two years after James Wilson Marshall found his epochal nugget in John Sutter's mill-race along the Sacramento River, there were

100,000 men gathered on the gold-fields, which ranged for six hundred miles and covered eight million acres. They took out \$50,000,000 in that year with crude pans and cradle rockers, and five years later exceeded that

sum by \$15,000,000.

What they did then is being done to-day, and more, for in a year California produced over \$19,000,000 worth of gold and still leads all other American gold fields, even Alaska and Colorado, the El Dorados of the later generations. The modern miner has revolutionized gold mining. He delves into mountain sides with his electric and compressed air drills, often penetrating for thousands of feet. In some places the modern miner squirts immense and powerful streams of water against a hill-side, like firemen subduing the flames. This is the hydraulic method of mining, which washes away the gravel and dirt and exposes the gold. In another district gold is mined just as the coal is. Deep shafts lead into the bowels of the earth, and from these there are tunnels branching out. Huge timbers brace the walls and roofs, and the miners drill holes in the walls with electric and compressed air drills. Their ore is carried to the shaft opening in motor cars and thence up the shaft in buckets or "skips." This is what they called "quartz" mining. Then the ore is taken to the stamp mills to be crushed into a fine powder, after which it is treated with acids and electric currents, put through wonderful machinery, until it comes out in the form of bullion, ready to be shipped to the mints.

If gold is the autocrat of precious metals, silver is the democrat. For every ounce of gold in the world to-day, there are nineteen of silver. From the day that Columbus first landed in the New World to the day that China became a republic, enough silver had been mined throughout the world to make 2,488 four-cylinder compound locomotives or more than 300,000 tons of metal. If this had been sold on the market at present day commercial valuations, it would have brought about four billion dollars. Its coinage value would have been more than fourteen billion dollars, or enough to pay the funded debts of Italy, Japan, the Netherlands, and Mexico.

But silver is accepted in circles where gold, because of its greater value, cannot enter. It is in nearly every American home. What family is there to-day without its silver knives, forks, and spoons, its silver brushes, combs and hand-mirrors? In the art of photography, it faithfully paints exact images upon printing paper. It performs feats of magic in medicine, in association with other chemicals. It is one of the surgeon's best friends. When the human arteries and like organs break down, it replaces them and carries on their functions quite as well as the human tis-

sue. And it will carry the electric spark further and more easily than any other known metal.

Mexico produces the most silver, with our United States crowding it close for the honors. Our production is increasing and we will soon lead the world. American continents, North and South, supply nearly five-sixths of the world's silver. Before the discovery of America, silver was as scarce as gold. But when the silver floodgates of the New World were opened, it became so abundant that its value deteriorated, until to-day sixteen ounces of silver is considered equal in value to one ounce of gold. It costs as much to produce sixteen ounces of chemically pure silver as it does one ounce of gold.

To transport the silver mined every twelvemonth in the United States would require a train of nearly two hundred freight cars, and the shipment would weigh about 6,300 tons; about 110 of them are destined for the silver and other industrial shops in our country; the balance is distributed among the mints and the seaports for shipment to foreign lands.

A decade after the California gold rush, the world was again startled by the discovery of another El Dorado, this time in Nevada and consisting largely of silver. Its name, the Comstock Lode, was a household word for many years. It was almost a pure vein, about four miles long and three thousand feet at its widest point. From the day of its discovery until the year 1890, a period of thirty years, it produced about \$200,000,000 worth of silver, and about \$140,000,000 worth of gold. Nevada had again assumed the leadership in the production of silver in our country, with Montana and Utah close seconds. These three States produce nearly a third of our total supply. Out in these Western mountains sturdy American miners are forcing the earth to yield up its precious metals.

The startling phenomenon of mysterious gas bursting like a pillar of fire from the ground was first witnessed in the United States in 1821, by the villagers of Fredonia, New York, but the occurrence passed without further agitation—it was the discovery of natural gas. Thirty-eight years later, in 1859, the presence of gas was detected in great quantities in Pennsylvania. Little was known of its value, however, so, to prevent combustion of the oil, the natural gas was conveyed to a safe distance and burned as a nuisance.

The great awakening to the usefulness of this "dangerous vapor" came in 1872 when it was conquered by the genius of man in Pennsylvania and forced to go to work for him. It was found that imprisoned in the great stone caverns of the earth are millions upon millions of gallons of petroleum. This oil throws off powerful gases, which, when released, are

forced by compression through the porous rock to chambers in the earth. A drill, mounted on a beam about seventy feet high and twenty feet at the wooden hose, is used to puncture the gas vein. The natural gas rushes to freedom with an average pressure of two hundred to six hundred pounds to the square inch. There was recently a case in Pennsylvania where the recorded pressure was eight hundred to one thousand pounds. The gas is then conserved in a tank and directed into iron pipes. Meters measure the gas and it is conveyed in all directions to light the homes and to

generate heat and power in the factories.

This gas is in quantities in the earth beyond all human dreams. There are yet new regions to be found; new fields to be explored. Day after day the storehouses of the earth are giving up new supplies. An idea of its enormity can only be judged by the waste which occurs in the United States alone by accidentally puncturing gas veins and allowing the vapor to escape. A million cubic feet of natural gas is escaping every day in Oklahoma. The value of this for a single year is \$7,500,000. The fuel value of it is equal to 1,250,000 tons of the best bituminous coal. The waste is still more deplorable in Louisiana, where the means of heat are wasted in the air and the people are paying for coal which must be brought from a distance. The wastes in but three States made a grand total of \$23,000,000 worth of natural gas lost forever.

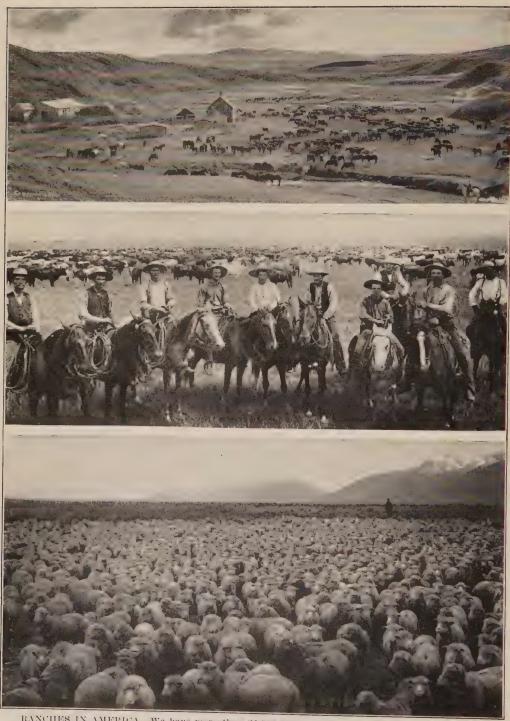
No one can estimate the possibilities of natural gas. They are beyond calculation. Millions of homes will no doubt be lighted in the future through this medium of nature's hot breath; thousands of factories will be run with the power it creates. Electricity will probably rely upon it for its generation. The entire machinery of the country may be controlled by its supply. The miracle of fire leaping from the ground has come as a new evidence of the incalculable riches that remain hidden in the

heart of the earth.

These visits to the riches of the vast subterranean world that lies beneath the American continent, the foundation upon which the American nation has been built, might be continued for a long period. There are many metals that we have not even mentioned, but this is sufficient to impress us with the main point—the indisputable claim that American civilization is on substantial ground, that it is not merely a creation of genius, but a geological fact—a product of nature.



MAGNIFICENT MOUNTAIN OF COLORADO—This State contains the highest mountains of the United States, excepting Mt. McKinley in Alaska and Mt. Whitney in California—More than 200 peaks rise to 13,000 feet—Here we look upon Mt. Wilson from Ophir Pass—The highest is Blanca Peak, 14,464 feet high.



RANCHES IN AMERICA—We have more than 21,000,000 horses, valued at \$2,500,000,000—The cowboys of the Great West tend the herds on these ranches—The sheep ranches produce the wool for the American people,

PART IV CHAPTER X

GREAT AMERICAN AGRICULTURE

"The first farmer was the first man, and all historic nobility rests on possession and use of land."

—Emerson.

GRICULTURE is the first of man's achievements—it was his first discovery in the science of human existence. There has never been a great people without a great agriculture; all real values, say the economists, are land values. The first of all modern commercial nations must be built on the foundation of its green fields—it comes from the earth; there is its sustenance. The one thing that threatens the supremacy of a nation is when its cities and commerce have outgrown its fields and agriculture resources—that is the first step toward national starvation.

America has come into the family of nations, endowed with an agricultural heritage, the richest in the world. Its rich soil spans more than thirty degrees of latitude and forty degrees of longitude, reaching from the fruits of the semi-tropics to the grains of the North. This gives to the nation an imperishable physical foundation. America's greatness and power was born out of an agriculture that promises never to slacken its pace with the growth of the nation. We are the only nation that can now live absolutely on our own soil.

There are over 600,000 farms, more farms than in the Russian Empire, which is over twice the area of the United States. These farms are valued at more than \$40,000,000,000. Some of them are the largest farms in the world. In Kansas there is a farm of more than twenty-five thousand acres, and the Dakotas, Nebraska, and Texas have a number of farms

exceeding ten thousand acres.

The American farms, exclusively of their stock and everything but the buildings, are worth more than the entire Russian Empire with its over 7,000,000 square miles, its railroads, its mines, its great cities. On these farms there are nearly \$3,000,000 worth of farm animals including their yield of products. There are more than 56,000,000 cattle, over 20,000,000 horses; 50,000,000 sheep; more than 4,000,000 mules; more than 58,000,000 swine. These animals all told are more than 190,000,000 in number. The milch cows produced 983,000,000 pounds of butter last year, not to calculate the gallons of milk. The horses of

the country are equal in power to all the power of our steam and water machinery. These huge animal figures do not include the poultry, which is a big item in the nation's wealth. The great American hen lays 5,000,000,000 eggs, or five dozen eggs for each inhabitant of the country. It must have required 100,000,000 hens to lay all these eggs. The dairy products of the United States exceeded \$350,000,000 in value. Of these animals, over 20,000,000 cattle, sheep and hogs are annually slaughtered for meat—more than any four countries in Europe produce. Our meat and poultry production together exceeds that of England, France, Germany, and Italy.

Agriculture, beginning with the days of the first settlements, was the chief occupation of the American people. Not only of the whole nation, but especially of the American born. The census reports show that of all the native born, exactly one-half were engaged in agricultural pursuits. The foreign born on the contrary are attracted more largely by mills, factories and mines. The only nationality that approaches the natives in the proportion of agriculturists which they give to the nation, is the

Scandinavian, 50 per cent. of whose members till the soil.

American agriculture presents certain peculiarities which deserve attention. The tendency has been to concentrate all efforts on certain great staples: wheat, corn and cereals in the North; cotton, rice and sugar in the South. In the production of those commodities a tremendous advance has been made and extraordinary results obtained. This was due mainly to the industrial genius of the men who developed the soil of this land. American agriculture (like American railways) has been marked by its adaptation to the peculiar needs and conditions of the country. It has been not intensive but extensive. Like the railroad, it has spread thinly over immense spaces, instead of concentrating its efforts on small patches of land. Foreign writers several decades ago often mentioned the slipshod methods of the American farmer, the meagerness of the crops, the waste of manure, the failure to rotate crops, etc. But the American farmer was only adopting the methods which were the most advantageous for a community having an abundance of land and not obliged to confine its operations to a small number of acres. The important thing for a farmer was not how much he could get out of a certain acreage but how much he could get out of a certain amount of labor.

Land being cheap, it was more profitable to raise ten bushels of wheat per acre on 50 acres than 25 bushels to the acre on 10 acres. Conditions changed slowly, however, as the population became larger, and the soil was becoming exhausted. The transition from extensive to intensive farming has accomplished itself almost completely in New England, New

GREAT AMERICAN AGRICULTURE

York, Pennsylvania and Ohio. It has just begun in the Mississippi Valley. In the Far West, on the other hand, the practical methods of the first settlers will still obtain for some time yet.

The abundance of the soil was not the only factor that determined the enormous development of American agriculture. A factor quite as important was the extensive use of machinery. There is no branch of industry in which the ingenuity and enterprise of the American nation have been so strikingly manifested as in the invention of agricultural implements. Mowers, reapers, binders, plows, cultivators, harrows and an endless variety of other mechanical tools have revolutionized agriculture in this country and will gradually revolutionize it the world over. It has been calculated that the amount of human labor now required to produce a bushel of wheat is only ten minutes, while it required three hours fifty years ago. The ease with which large pieces of land on the Western prairie could be acquired and placed under one single management has led to the creation of farms the like of which the Old World had never known. And on those farms as a rule only one single staple is produced. This high tide record in farming is due to an abundance of land and a preponderant population on the land to begin with, and now to the application of science to the soil in all the older settlements of the United States.

The progressive American agriculturist of to-day must have as liberal an education as any worker in the nation. He must be an agricultural chemist, an engineer and mechanic, a bacteriologist. He must understand eugenics as they apply to his stock, rural economics, horticulture, soil, physics, agronomy and thremmatology. That last is the science of breed-

ing new kinds of plants, as well as animals.

The ancients practiced and appreciated agriculture, or husbandry, as they liked to call the science. It was Cicero who made Cato say: "The home of a good and industrious husbandman is stored with wealth, and nothing can be more beautiful, nothing more profitable than a well cultivated farm." Wherever one goes throughout our nation, one will find flourishing farm lands circling round cities and towns. There one will see great fields of growing grain, heavily burdened orchards of fruit, trim and scientifically arranged farm buildings; modern suburban homes lighted by electricity (as are the farm buildings), heated by modern methods, equipped with the latest house-keeping devices, connected with neighbors and cities by telephone wires, which also radiate throughout the whole farm, connecting the owner with all points of his field of operations. One may meet the farmer and his wife and children speeding along macadamized highways in high-power automobiles, the children destined for a modernly equipped school where they study the science of agriculture as well

as the studies of the city-student, the wife probably making her social calls

while the farmer continues onward to sell his crops in the city.

This is the day of scientific farming. On the model farm one worker may be putting blue litmus paper into the ground to find out if the soil is sour; or another may be knocking half the apples from the trees, so that the remaining fruit will be of better quality. In the cow barn another may be spreading raw phosphate to be put in the soil to assist the plants and grains to grow. Out in a field a worker is spreading a coating of soil, brought from another field, to inoculate the poorer soil with bacteria and help the legumes to flourish. That thundering noise heard is the dynamite exploding or subsoiling the earth so that the roots of the crops can penetrate farther into the earth and get nourishment that otherwise would be forever cut off from it.

These are a few of the scientific methods which have enabled the modern farmer to perform that miracle of "making two blades of grass grow where one grew before." Turn to the reports of the Agricultural Department, that wonderful institution which is spreading its knowledge and beneficence among the farmers, and find out what the actual results have been during the last decade. They relate that the yield of corn per acre all over the country has gained on the average more than seven per cent. and wheat over nine per cent. There are many more items, but these will illustrate what scientific methods mean. These figures are for only one decade, and the preceding decades shows a proportionate increase, ever since the close of the American Civil War when agriculture began to receive the attention of scientists. Since that time, the bushels to an acre of some staples have increased from thirty to sixty.

The farmer is almost the only inventor who does not keep his discoveries for profit to himself alone. Owing to this fact the world is able to test its cows' milk productivity through Babcock's testing machine; is able to grow the naval orange which William Saunders brought into the country and the Wealthy apple, said to be the best of apple seedlings, which cost Peter Gideon of Minnesota his last \$5 for seeds (even while he had to make a coat out of a pair of trousers and a vest); or the wonderful Minnesota experiment station, which to-day has added 15 per cent. to the wheat crop in a decade. It was Wendelin Grimm who gave alfalfa to America after having brought it from his native home in Bavaria ten years before the Civil War broke out. The Alabaman, James F. Duggar, was the discoverer of the modern method of inoculating soils, and he published his conclusions in bulletins which were so well distributed throughout the land that there is scarcely any modern American farmer who does



PEACH ORCHARD IN COLORADO.



LEMON GROVES IN CALIFORNIA.



ORANGE GROVE IN CALIFORNIA.

FRUIT PRODUCTION IN AMERICA—The wealth of the orchards in the United States gives an annual production exceeding \$200,000,000 each year—This tremendous fortune is but one of the lesser elements in the agricultural wealth of the United States,



TOBACCO PLANTATIONS IN AMERICA—Tobacco was unknown to the civilized world before discovery of America—It was first found in Mexico in 1558—The United States is producing more than a billion pounds a year, valued at about \$125,000,000.



SUGAR PLANTATIONS IN AMERICA—Sugar cane was brought into Louisiana by the Jesuits in 1751—The Americans were the first to refine sugar in 1792—The United States now produces over 20,000,000 tons a year.



AMERICAN FRUITS IN HAWAII—Pineapple plantations—The pineapple is a native of the American tropics, but has been introduced into warm climates throughout the world: West Indies, Florida, Northern Africa, Hawaii and Azores Islands.



GREAT FORESTS OF AMERICA The United States possesses 700,000,000 acres of forest—Millions of acres have been devastated to secure lumber to build the nation. The government has now entered upon a conservative policy to preserve its forest resources.





PICKING COTTON ON SOUTHERN PLANTATIONS Cotton crop in United States is valued at nearly a billion dollars a year - The leading cotton growing State is Texas.

GREAT AMERICAN AGRICULTURE

not understand how to transfer good soil to poor. The names of these benefactors to the farmer and the nation are legion.

One of the greatest benefactors is the Government itself, through the Department of Agriculture. In a recent year its directing official figured what the Department had actually accomplished, in dollars and cents, for the country. It reached the tremendous figure of \$231,859,000, counting only those larger items which could be estimated, and they ranged

through all branches of agriculture.

It was estimated that for frost, cold wave and river-rising warnings, the Weather Bureau saved the country \$25,000,000. The Bureau of Soils, which shows the adaptation of soils to crops, methods of handling soils, and studying the alkali problems, totaled about \$9,000,000. The money spent for the destruction of farm pests, coyotes, wolves, and other animals which endanger crops, and also for encouraging certain birds of value, is conservatively estimated by the Bureau of Biology at \$2,000,000. For introducing the Australian ladybird to eat the San Jose scale, not to mention the work on the black scale, cotton insects, including the boll weevil, and the insects which prey on general crops, the Bureau of Entomology required \$5,000,000. The Bureau of Plant Industry claimed \$20,000,000, mentioning as its largest item the introduction of Durum wheat. The largest bureau is that of animal industry, and it claimed over \$50,000,000, distributing its claims through tick eradication, subduing pleuro-pneumonia, dairy investigations, new treatment of milk fever, dipping sheep for scabies, inspecting cattle-ships, and inspecting Then there is the Good Roads Office, which aids in the building of new and repairs old roads throughout the rural districts, and the Forest Service for maintaining forest reserves, thus preserving stream flow and indirectly bringing the rain in needed seasons.

The agricultural experiment stations are the outposts, or scouts, of the Agricultural Department. There are about sixty in the United States, located in every State and Territory, and they are units of the Agricultural Colleges which are establishing scientific American agriculture. Michigan claims the honor of first establishing an agricultural school, providing for one in 1850, making it a part of her second State constitution. Seven years later, Justin S. Morrill, the Father of American Agricultural Colleges, introduced a bill to the House of Representatives to endow the Land Grant Colleges which Congress had established. Connecticut claims the first experiment station, opening one at Middletown to be conducted along

modern lines, later moving it to New Haven.

It is these stations that reduce scientific agriculture from theory to

practice. The results of the experiments are published in bulletins and sent to the farmer. They will test the soils submitted and advise the farmer the best crops to grow, or how to increase the fertility of the soil so as to increase the yield per acre. What is true of soil is also true of any part of a farm or its products. When a new plant suitable for growth in America is found in any distant clime-and the Department of Agriculture maintains a large corps of expert agriculturists to comb the earth for these plants—it is first tried out in experiments and if practical the information is sent broadcast. We mention just one instance to illustrate what this service means. A man sends word to the department that his land, bordering the overflown banks of the Great Lakes, is too wet to grow anything. Back to him comes a package of taros, or vautias, or dasheens, and probably all three, with instructions on how to plant and raise them, with the further assurance that they will not only thrive in the wettest soil and are more edible than the sweet potato, but that starch, flour, alcohol, and a few other things as well can be made from these articles which one of the department scouts found in the interior of Africa.

The agricultural resources of the United States are bound to increase continually as intensive cultivation takes the place of extensive cultivation. Furthermore, to the arable lands now at the disposal of agriculturists, irrigation is constantly adding new fertile tracks. Until 1902, all the irrigation work had been done by private parties. The Reclamation Act provides for irrigation works built by the Government, which repays itself for expenses incurred out of the sale of land and water rights. Up to 1910, some 15,000,000 acres of land had been reclaimed in that way in the arid Western States. This system has proved very profitable, for the receipts up to 1910 had been larger by \$15,000,000 than the expenditures. Irrigation has enabled many men with slim resources to settle on cheap but fertile tracks of land in the West, and the number of small farms has increased considerably in recent years. It is estimated that there are brought under cultivation 1,000 new farms every year in the Western States, compensating the steady abandonment of farm lands in the East, particularly in New England and New York State.

America grows more corn than all the other countries of the world and it has therefore been called Corn King of the world. This year it is estimated by the Agricultural Department that the crop will be 3,000,-000,000 bushels. Last year it was 2,500,000,000 bushels in round numbers. This gigantic production of corn has made it possible to raise all these valuable animals and poultry on the farms and it has made America

the world's meat market as a consequence.

To give an idea of this, the greatest cereal crop in the world, let 356

GREAT AMERICAN AGRICULTURE

us suppose that the crop reaches only 2,750,000,000, a very conservative estimate. If this corn were loaded in cars of 1,000 bushels, it would require 2,500,000 cars and 85,333 locomotives carrying thirty cars each to carry this enormous crop. All the locomotives and grain and box cars in the United States and Europe could not carry it on one trip, and if stretched out in a straight line, allowing thirty feet for each car and space between the end of each car, it would be 17,067 miles in length, and would reach from San Francisco to New York, Liverpool, Berlin, Constantinople, Bombay, and Hong Kong, China. This immense train would girdle the United States twice, beginning at Chicago with a double track, thence to New York, Baltimore, Wilmington, Savannah, Jacksonville, Fla., Mobile, New Orleans, Galveston, Houston, San Antonio, El Paso, Los Angeles, San Francisco, Portland, Seattle, Helena, Montana, Minneapolis, Milwaukee, and Chicago, the starting point. The weight of this enormous corn crop would be 143,360,000,000 pounds. If corn is worth 75 cents a bushel to-day, this enormous corn crop would be worth about \$1,700,000,000. This corn crop would be worth as much as our great iron and steel industry, or as much as our wheat and cotton crop combined.

The biggest corn farm in the world is located in the State of Missouri. This farm contains more than twenty-five thousand acres. More than 8,000 head of cattle are fed on this farm and nearly 10,000 head of hogs. The great corn States are Illinois, Iowa, Missouri, Nebraska, Kansas, Indiana, but corn is cultivated on a large scale in eighteen other States. The total production is close to three billion bushels, and the total acreage close to 110,000,000 acres. The United States produces three-fourths of the world's entire corn crop. Minnesota, North Dakota, South Dakota, Kansas, Nebraska, Indiana, Washington are entirely devoted to the raising of winter and spring wheat, the average annual crop being about 750,000,000 bushels on an average area of 47,000,000 acres.

America grows more wheat than any country except Russia. This year it is estimated that the crop will reach 1,000,000,000 bushels. But, if it has to take second place in wheat production, it comes up to the top again in hay, and forage. The value of the hay crop last year was nearly \$800,000,000 and exceeded in value all the metals mined in this country but pig-iron. Hay is a twin brother to corn in making America the land of beef. The hay crop is now 75,000,000 tons, and it would take far more

cars to haul this hay than the corn crop.

But America is King Cotton as well as King Corn, Queen Hen, Queen Cow and King Grass, to the whole world. It raises over 70 per cent. of the world's entire cotton crop. The high water mark of this crop was 14,-

100,000 bales in 1912. At \$50 a bale it would amount to \$705,000,000. But as hay and corn are converted into meat, more than doubling their original value, so more than half of the cotton now grown in this country is manufactured into products more than quadrupling its original, raw value. The great American cotton crop when it has passed from the gins through the factories pays to the American people in actual profits the sum of at least \$2,000,000,000. The cotton States are Texas, Georgia, Mississippi, Alabama, South Carolina, Arkansas, the annual yield being on the average of 14,000,000 bales or two thirds of the world's production.

The cane sugar States are Louisiana and Texas, which produce some 350,000 tons yearly; the beet sugar States are Colorado, Michigan and California. There are about 450,000 tons of sugar extracted from some

3,500,000 tons of beets.

The oat crop is generally over a billion bushels a year, and the area is close to 35,000,000 acres. The oat States are Illinois, Iowa, Minnesota, Wisconsin, Nebraska, Ohio, Indiana, the Dakotas, Michigan, and New York, producing each from 1,000,000 to 4,500,000 bushels.

The rice crop of the United States is approximately 24,000,000 bushels, grown on 750,000 acres. The rice States are Louisiana, Texas, Arkansas, South Carolina, Georgia, Alabama, Mississippi, Florida and North Carolina. The value of the Louisiana crop is on the average \$10,000,000

a year.

The above facts and figures constitute that which is and must always remain the body, the backbone, and spinal cord of the great republic. It is these staggering figures that we have dug out of our fields, and housed in our barns and elevators, our mills, smoke houses, and pantries. You will no longer wonder that we are the best fed nation on earth, and that we are always ready out of our great abundance to pour into the lap of charity and put bread into the mouths of the unfortunate and starving throughout the earth.



SHEEP RANCHES IN AMERICA—There are in the United States over 50,000,000 sheep valued at nearly \$300,000,000—They produce annually over 300,000,000 pounds of wool valued at \$60,000,000,



GATEWAY TO AMERICA'S GREATEST METROPOLIS—First vision of New York approaching from harbor—The skyline of the glant city is one of most magnificent spectacles in the world—City covers 316 square miles—Its population exceeds 5,000,000—larger than Greece.

PART IV CHAPTER XI

GREAT AMERICAN BANKS

"Private credit is wealth; public honor is security."

—Junius.

ONEY is the driving power of the world; it is its physical generative force. A nation's ability to accumulate money denotes its ability not only to plan and launch enterprises, but to make multiplication tables of profit out of its enterprise. No nation can ever grow great without the gift to make money honestly and use it with wisdom. America shows that it possesses this gift to a pre-eminent degree. It has made and saved more money than any other nation, because it has more generative force, more enterprise, more inventiveness, and more natural wealth. The following chapter shows how America gives the most concrete expression to its great money power.

The banking power of America is now nearly two-fifths of the banking power of the entire world. In another decade, at the rate it is increasing (219 per cent., while the balance of the world is increasing 102 per cent.), it will be over half the world's banking power. In 1906 our banking power was \$16,000,000,000, or greater than the banking power of the whole world in 1890. In 1908 it had reached \$19,500,000,000; in 1912, \$25,000,000,000, and by the end of 1915 it is estimated that it will have reached \$28,000,000,000,000, while the balance of the world will have reached only \$42,000,000,000. In ten years it has nearly doubled itself. There is nothing in our growth and progress as a nation more amazing than these enormous figures, this huge aggregation of financial

power.

More than any other item in our national wealth does this banking power represent the energy, the industrial and commercial vitality of the people. It is the industrial and commercial blood of the nation in circulation and it circulates with a power and pressure unknown in all the past. Here is a people grouped under one nation and representing only one-sixteenth of the human race, with two-fifths of the whole race's capacity to circulate among themselves and into the outer world their financial and commercial power. Nine-tenths of this great power is confined to the carrying on of domestic trade and transactions at home. England and Germany each has had a much larger foreign trade than has

America, but the domestic trade of both of them combined does not begin to compare with that of the United States. No people in the world buy from and sell to one another such prodigious quantities of merchandise, deal in such enormous real estate values, and project such gigantic financial enterprises among themselves as the American people, and without their great banking power they could not do this. This banking power, as expressed in figures, is the red letter index to our great volume of industrial and commercial transaction.

This is not, however, an index to the whole story, for there are many comparatively small transactions and trades daily in which banks do not figure. There are now \$3,000,000,000 in the pockets of the people outside of banks, yet every bill of money and coin bears on its face a

part of the country's banking power.

There were at the beginning of 1915, 28,746 banks. Of these 7,581 were national banks, with \$11,357,086,017 resources. Bank resources are such items as loans, bank deposits, not individual, cash on hand, securties, etc. There were 1,978 savings banks with \$4,513,427,930; 14,011 State banks with \$4,143,052,802 resources; 1,515 loan and trust companies with \$5,123,920,197 resources, and 1,016 private banks having

\$183,765,398.

The national banks and the State banks and trust companies have been organized and welded into a great national banking system under the Federal Reserve Banking Act. Out of six per cent. of the capital of all these banks have been created twelve Federal District Reserve Banks with a capital of \$225,000,000, which in reality is a great central bank. the banking power of the American people grows this great central bank located in twelve representative financial centers will grow accordingly. It will in time become the greatest financial institution in the world, surpassing the Bank of England. It serves the banks and the business of the country just as the heart serves the human body. It regulates the circulation of money by making the great banking power of the United States react readily to every need and demand of industry and trade. breaks up an overflow of money in New York and carries to the little country towns of the agricultural West and South the cash to move crop. Wherever there is the slightest indication of a panic, it is immediately on the spot with a huge bag of gold to reassure the timid. No less a financial authority than the late Senator Aldrich said that if the United States had had such a bank, the people could have prevented all their terrific panics, which is equivalent to saying that there will be no panics hereafter. "We have forever scotched the snake of panic," declares Secretary of the Treasury McAdoo. If we have, the banking power of Amer-

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ica has been increased a hundred fold, for America in its unrivaled progress and sudden swift changes has long been a land of tempestuous money panics at too frequent intervals.

There is now no great institution in the country more secure than our national banks. The failure of a national bank now is almost unheard of. To-day our national banking system is even more honest than the highly reputed banks of China. And the State banks and trust companies are not less so. Our banking system has become a pillar of financial honesty. An honest bank makes trade honest. There is no more essential element in the growth of America's great banking power than this honesty.

Most, if not all the State banks joining the Federal Reserve System are becoming national banks; so, too, will the trust companies, and within a short period our whole banking system is likely to become national in substance and scope, even including our savings banks. Every bank will then have the power of the nation behind it. The adoption of postal savings banks, which are as yet too restrained in their capacities in receiving deposits, is in the direction of nationalizing the country's great banking power. A bank will be like the dollar that it holds. It will have the stamp of the nation on it. Private banks are on the decline and must go, for no bank can live in a highly organized commercial nation unless it is the symbol of the security and power of the Government.

There is now in the United States a bank to every 3,400 persons or to every 680 families. In the New England States there is a bank to every 6,117 persons; in the Eastern States, including New York and Pennsylvania, there is a bank to every 7,618 persons; in the South a bank to every 4,567; in the Middle West, a bank to every 3,206 persons; in the Western or Rocky Mountain States a bank to every 1,564; in the Pacific States, a bank to every 3,466, and in the Island Possessions a bank to every 39,147 persons. The average bank has about \$1,000,000 of assets; the average bank in New England, \$2,719,000 of assets; the average bank in the Eastern States \$3,520,000. In the great States of the Middle West the average bank has \$705,000, or one-fifth as much as in the Eastern States and one-fourth as much as in New England. In the Pacific States the average bank has \$919,000. The average bank in the South has \$378,000 and in the West \$227,000, but the West has more small banks than the South. Two-thirds of the banking power and money of the country are found in the New England and Eastern States with Illinois thrown in. Consequently, an individual in the South or West with equally good security finds it much harder to borrow money than his more fortunate fellow individual who lives in the East. This defect the Federal Reserve banks seek to remove. The banking power of New York

State is, in round numbers, \$14,000,000,000, or 17 per cent. of the total of all the banks in the country. Of \$173,765,528,000 bank clearings for the whole country in 1913, New York's share was \$98,121,220,000. London, long the commercial capital of the world, has never shown such a record, and indeed this was a high water mark for New York, which 1915 is

likely to surpass.

The great problem of our foreign trade especially with the South American countries is more one of banks than it is of ships or goods. The Latin-Americans trade on long time credits, and their principal security is real estate. Only branch American banks established in these countries can handle this sort of business with intelligence and safety. American banks have at last begun to meet this problem by establishing branch banks in centers like Rio Janeiro and Buenos Aires. Thus the great banking power has begun to invade the world.

The most interesting human feature of the banks of the United States are the individual depositors and their desposits. It should be borne in mind that while these deposits are not banking resources they constitute banking power but not the technical power of the banks described above. They are one of the principal liabilities of banks and the power of the people to make use of banks. The great bulk of these deposits in the national banks are subject to check and are not really savings, but they give a definite focus on the ever driving energy and enterprise of the nation. These individual deposits in the national banks represent about one-half of all the deposits in the other banks, and in 1912 they amounted to \$5,-025,000,000 against \$11,198,000,000 held by all the other banks. In 1914, these deposits had increased in round numbers to \$6,000,000,000. In 1865, the national banks had only \$500,000,000. In 1885, they had \$1,111,000,000, \$1,720,000,000 in 1892, \$3,111,000,000 in 1902. From 1902 to 1914 they had nearly doubled, which shows that individuals are doing twice as much business with their banks as they did twelve years ago.

It is the record of the savings banks deposits to which the political economist turns to reckon the thrift of the people. In the great industrial centers they are the true gauge of this thrift. John Stuart Mill, the high priest of political economy, frequently said that the most precious possession a people can have, was what he styled "the effective desire or instinct of accumulation." On the other hand, in the great agricultural communities the savings bank is not a vault under lock and key, but it consists of broad acres. In the \$41,000,000,000,000 of farmers in this country are deposited most of the savings of the 600,000 farmers and their families.

There were in round numbers \$5,000,000,000 of deposits in the



TREASURY OF THE UNITED STATES—The amount of money in circulation in the United States exceeds \$4,000,000,000—The total wealth exceeds \$150,000,000,000—The administration of government costs more than \$1,000,000,000 a year.



GOVERNMENT BUILDINGS AT NATIONAL CAPITAL—This magnificent structure is occupied by the State Department, the War Department, and the Navy Department—
It is here that our international relations are conducted.



FAMOUS UNIVERSITY IN AMERICA—Library at Columbia University—The University was founded before the American nation as King's College, under Charter granted by George II in 1754—It has nearly 12,000 students.



LARGEST FREE PUBLIC LIBRARY IN THE WORLD—This magnificent structure is the New York Public Library—It is built of Vermont marble, with a capacity of about 2,500,000 volumes. It seats nearly 2,000 readers.

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savings banks, the money of 10,400,000 depositors, in 1914. For the last five years this army of depositors has been recruited on an average of 225,000 new depositors every year. Some of these depositors have, of course, a deposit to their credit in the country's savings banks, but the number of

depositors is growing faster in proportion than the population.

The distribution of these depositors over the country and the growth and average amount of the deposits of each from time to time, as compared with similar savings bank records in foreign countries, show that, although America is considered by foreigners the most extravagant of nations, it is really one of the most thrifty of nations. If the total amount deposited in our savings banks had been equally distributed among the population of the country, the amount to each person in 1820 would have been \$.12; 1830, \$.54; in 1840, \$.82; in 1850, \$1.87; in 1860, \$4.75; in 1870, \$14.75; in 1880, \$16.33; in 1890, \$24.35; in 1900, \$31.78; in 1910, \$45.05. In 1915, it is estimated that there are \$50.00 in the savings banks to every person in the country.

The individual deposits in the Pacific States are larger than in the New England or Eastern States, but, when we consider the average per capita, the opposite is the case. In Massachusetts and Connecticut the average per capita amount of deposit is over \$250.00, and in none of the New England States does it fall below \$100. New England and the six Eastern States furnish over three-fourths of the total deposits in the savings banks of the country. The magnitude of the deposits in these States becomes more apparent when we realize that in half of the States of the country the per capita deposits are less than \$5.00. In the South and West

farm owners put their earnings in farm improvements and lands.

France has been proclaimed as the nation of incarnate thrift. In 1901 the French had in their savings banks only \$22.75 per capita, as compared with \$31.78 per capita for the United States, but the French, like many Americans, have other ways of saving their money. In 1901 the English had in their savings banks \$23.14. In Prussian Germany the figures were \$25.81; in Italy \$13.66; Austria had \$32.00. Poverty-stricken Russia had jumped from \$.04 in three decades up to \$3.27. This gain was a monument to the late Mr. Witte, who largely brought it about. In 1901 Canada had only \$14.00 per capita in her savings banks. Australia had \$23.00; New Zealand had \$40.00. But Denmark stood at the head of the list with \$76.00.

But it should be finally added, in making any sort of an accurate estimate of the thrift of the United States, that in the last decade the American people have invested a billion dollars in new issues of bonds and se-

curities.

CHAPTER XII

GREAT AMERICAN NEWSPAPERS

"Here shall the Press the People's right maintain, Unawed by influence and unbribed by gain; Here patriot Truth her glorious precepts draw, Pledged to Religion, Liberty, and Law."

—Story.

HE American newspaper is to-day one of our greatest institutions. It stands in the financial ranks with banking, railroading, and manufacturing. Here in America there are but two estates—a free people and a free press—and against these combined forces no human power can exist. "Four hostile newspapers," exclaimed Napoleon, "are more to be feared than a thousand bayonets." The newspapers stand "between the governors and the governed, and form the single organ of both."

Modern civilization is erected on the power of public print. The modern Atlas, supporting the world on his shoulders, is the printing-press. It is the printed page that sustains the power of law, that supports religion, that makes education possible, that underwrites all the trade and commerce of the earth.

The modern American newspaper is more powerful than the preachers; greater than the political bosses; it is the main strength of the business world and the people's grand jury of the whole. Newspapers mold opinion; they preach to millions, and they enlighten and guide the democratic multitude. Without them liberty, democracy, and self-government would be incomprehensible and therefore impossible. Every historic democracy before our own perished for want of a free press; our newspapers are the very life breath of our institutions. They are the very atmosphere of our minds, the throb of our great common heart. They are what we are and what we have made them. Nothing else that we have created is so truly a part of our life and being as the daily and weekly records of our history.

To have a correct knowledge of human affairs, to be well informed, it is necessary to-day to read the current daily and weekly press. Fully 300,000 miles of ocean cables beneath the seven seas, wireless telegraphy and the telephone, with a dragnet of wires over this continent, bring the important events and affairs of the world daily into every center of population through the printed page of the local current press. It correctly and daily interprets the amazing age of scientific progress in which we

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live. The important achievements of the human race of every character are expressed in the most engaging and attractive form.

The four cornerstones in the building of our national structure are the schools and colleges, churches and libraries, but the current press of the nation rises like a great gilded dome toward which the eyes of all our people are turned constantly. It is conservatively true that the local newspaper in every community has larger influence with the entire population of men, women, and children than all four of the previously mentioned educational institutions. We are not trying to draw in this statement any unfavorable comparison but simply stating a fact that has arranged its own conclusion. To-day, the newspaper seeks every person upon the street, in the cars, in the homes; it is practically everywhere and not to be avoided. It is significant that the non-progressive countries that have slumbered through the centuries have no current press. They cannot bring about a world-wide interchange of ideas which the modern press accomplishes in our nation.

There are about 28,000 publications in the United States distributed through our forty-eight States. They are divided among daily newspapers, weekly newspapers, monthly periodicals and quarterlies, scientific, religious, and trade papers relating to various industries. It may be said to-day that any man can sit in his own house with his newspaper and periodicals before him and truly say, "Old Mother Earth, I know you." The news of to-day is divided into two classes; general informative news and business news. Our great commercial enterprises could not distribute their commodities, and make our vast population acquainted with their value, except through advertising in the current press. To-day business news or advertising is almost as important to our general population as informative news.

Our newspapers, which to-day are great in size, great in energy and enterprise, swift in action and achievement, the mirror of the greatest free and popular movement of humanity on earth—had the most humble beginning. The first American newspaper was the Boston News-Letter; its first real news was the execution of six pirates in that city on June 30th, 1704. The report of this event filled nearly half the little sheet. Within twenty years, four more little sheets, the Gazette and Mercury in Boston, the Mercury in Philadelphia, and the Gazette in New York, came into existence. The news from Europe was the most important news. Scarcely anything that took place in this country got into print in the colonial days. A month was then relatively longer than an hour now.

During Washington's administration the Minerva was founded in New York in 1793. It was renamed The Commercial Advertiser in 1797,

and is to-day The Globe—a paper that always has shown great enterprise in national affairs.

The newspapers later fought the American Revolution, helped mold the Constitution, directed the new nation, by acting as the link that united the people to a common cause. The Courier and Inquirer, of New York, and its rival, the Journal of Commerce, organized swift news schooners in 1830 to meet the incoming ships one hundred miles out. Then, some years later, the Journal of Commerce established a pony express between New York and Philadelphia, later extending it to Washington, and by this means published the news of Congress and of the South a day in advance of its competitor.

The definite beginning of the great national American newspaper dates from about 1835. It was then that James Gordon Bennett, the elder, the first American reporter, published the New York Herald, a penny sheet, from a cellar in Nassau Street, and fairly startled the staid, easy going world of that day with the clearly stated, outstanding facts in his reports, and with the striking headlines of the printed page. News at

once became a living thing. Bennett created the interview.

There is no business in the world that requires such enterprise, such activity, such creative power and ingenuity as the making of a newspaper. Bennett was longing for a great event to demonstrate his enterprise. It came in 1838; the little steamer Sirius, the first regular steamship to cross the ocean from England to the Untied States arrived at New York. Like the true newspaper prophet that he was, he took passage on the steamer on its return to Europe, and appointed correspondents in London and Paris for his American paper—this is the beginning of the foreign correspondent.

But Bennett's departure in journalism did not move Boston or Philadelphia to imitate it. The Boston Daily Journal refused to send a reporter to Brighton to report the speech of Daniel Webster, the most important piece of news of the day. Bennett organized a long distance pony express from New Orleans to New York in 1845 and "beat" the Government so badly in getting news of the Mexican War, that the Postmaster

General attempted to stop the enterprise.

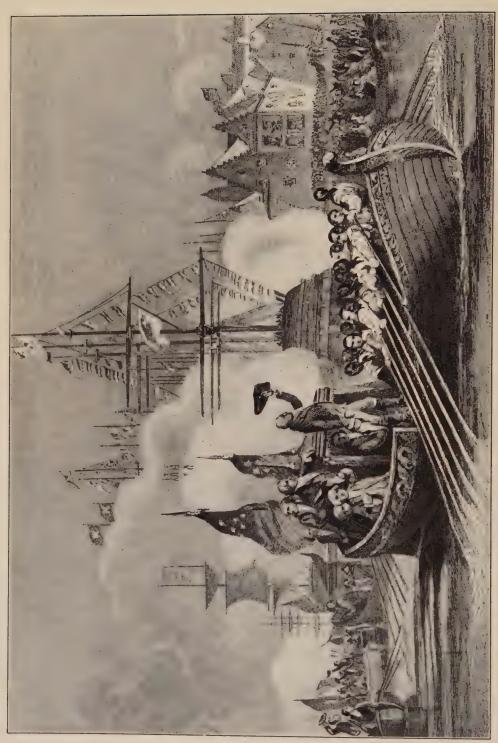
Then came the telegraph—the twin brother of modern journalism. Great names in the history of the American newspaper now began to loom upon the horizon. It is a galaxy of genius—master minds, statesmen of the public print—Among them were Bennett, Bryant, Greeley, Raymond, Webb, Reid, Dana, Godkin, and Pulitzer, of New York; Hale, Taylor, and others, of Boston; Childs, McClure and Smith, of Philadelphia; Abel, of Baltimore; Bowles, of Springfield, Massachusetts; Medill,



WHERE "THE STAR-SPANGLED BANNER" WAS WRITTEN—Fort McHenry, Baltimore, Maryland—It was here that Francis Scott Key wrote the national anthem while detained in the British fleet during bombardment of this fort in 1814.



CONQUEST OF THE CONTINENT—This photograph is taken at Battle Hollow, near Victory, Wisconsin, where the last great battle of the Black Hawk War was fought in 1832—White settlers were massacred but Black Hawk surrendered.



TRIUMPHANT ENTRY OF FIRST PRESIDENT OF AMERICAN REPUBLIC-Washington crossing the Hudson River and landing in New York to take outh of office as first president of the United States-The celebration took place on April 30th, 1789.

Washington was halled by a framendom avation.

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Nixon, Stone, and Storey, of Chicago; Halstead and McLean, of Cincinnati; Prentice and Watterson, of Louisville; Cowles and Armstrong, of Cleveland; Locke (Petroleum V. Nasby), of Toledo; Belo, of Galveston; Quinby, of Detroit; Wheelock, of St. Paul; Jones, Knapp, and McCullough, of St. Louis; De Young, of San Francisco; Grady, of Atlanta; Dawson, of Charleston, South Carolina—and many other geniuses.

The American Civil War was fought in the columns of the newspapers: they recruited the armies, molded the political opinion and action, brought Lincoln to the front and made him known to the people. The papers became vigorous personal organs. The editors were greater than their papers—they were nation-builders. This was the character of the American newspaper for fifty years. Bennett had taught the world the power of news: Raymond, and Dana, and Medill, and others, taught reporters how to write news, and then came Joseph Pulitzer to teach the newspaper how to make news a necessary commodity. From the entry of Pulitzer, in 1885, the American newspaper began its evolution into a great impersonal institution. The reporter mounted the throne of the editor. "Give us facts," cried the man in the street, "we know what they mean." The news columns expanded as historical records to cover every phase of human life—even to catch the immemorial and sacred private life of men, and the editorial page shrunk accordingly—a sure sign of democracy spreading and growing. The people, rather than the editors were now making the newspaper. The masses, the men in the street, became news. In half a century, the value of facts concerning human events, reported simply but graphically, increased ten thousand per cent. Without the publication of such facts now, the Government would perish and the whole social fabric collapse. To-day, men must know ten thousand times more about what one another is doing than they were required to know a century ago. The telegraph, the telephone, the improvement in the printing press, the invention of the linotype, and the typewriter, and the building of the railroad, brought about this need-with the newspaper as the great dynamic power behind them. The need of general information and communication—an instinct developed by the newspaper—urged men to invent these instruments of knowledge. The American newspaper is the consummation of all great modern inventions.

Let us trace briefly the great newspapers through the age of the personal editors to their present impersonal status where their names conceal the identity of armies of editors and writers—the recorders of history.

A virile, editorial power of his times was Nathan Hale, nephew and namesake of the glorious "patriot spy." He gave to the Boston Daily Advertiser, the first daily published, a character for excellence. He was

a strong force in American affairs for many years, writing all his editorials and stamping into every sentence and phrase his robust personality. But he did more for the American newspaper than edit it; he harnessed its printing to steam, adapted the stereotyping process, and led the way in many other improvements. Rather than print a falsehood in his paper, he would wait to verify the news. Among Hale's distinguished contributors were Edward Everett, Daniel Webster, Ticknor, Prescott and the poet Bryant.

A vigorous name in the history of American newspapers is Samuel Bowles, of the Springfield Republican—one of its greatest exemplars of American journalism. Every youth within the last forty years, who intended to become an educated newspaper man, was advised to study the career and the writings of the editor of the Springfield Republican, which was for many years one of the two most carefully read journals in all editorial offices—the other being the New York Evening Post. The Republican combined the excellences of both the American and the English press.

When the elder Bennett started the *Herald*, one of the men he approached with an offer of partnership was Horace Greeley, then a printer and editor of the *New Yorker*. Greeley, on learning of Bennett's meager resources (Bennett had only \$250 to start with) refused. Greeley began the publication of the New York *Tribune* in 1841, which aimed at the moulding of public opinion by the power of its editorials. The *Herald* and the *Commercial Advertiser* had formed the first press association, and the *Tribune* was the first "reformer" in American journalism. Greeley not only stoutly advocated in his editorials abolition, woman's rights, temperance, and the abolition of capital punishment, but he engaged Margaret Fuller to investigate the condition of the poor in New York City—the first woman reporter.

Then came the rugged figure of Henry J. Raymond, who founded the New York Times, and Charles A. Dana, who transformed the New York Sun into a great newspaper. Greeley was the first great "leader" writer in American journalism; Raymond was one of the best equipped all-around editors of any time; and Dana was never surpassed for his pungent, exquisite English and his inimitable art of statement. The elder Bennett, Greeley and Raymond passed away; then came the younger Bennett, who inherited his father's enterprise—and later Pulitzer. For fifteen years the great leaders in New York journalism were Dana, Bennett and Pulitzer. Bennett sent Stanley to Africa; Dana became a political power and scourge to the White House; and there was not a week that Pulitzer did not box the compass in his eternal hunger for news.

GREAT AMERICAN NEWSPAPERS

Great editors were rising in all parts of the country. Philadelphia had her trio of newspaper statesmen—A. K. McClure, of the Philadelphia Times; Charles Emory Smith, of the Philadelphia Press, and George W. Childs of the Ledger. Childs was famous for his philanthropies, for his fine citizenship, and for publishing one of the ablest journals in the country. McClure had been an intimate of Lincoln and was an ardent friend of the impoverished South. He never failed to aid that section in his paper all through the doleful years when traduction prevailed. Smith was one of the editorial forces of the Republican party.

One of the strongest factors in national affairs was the Chicago Tribune, under the editorial management of Joseph Medill. Medill was one of the strongest personal forces in journalism this country has ever produced. There was no great venture in journalism, no redoubt of news worth capturing, that the Chicago Tribune and its editor would not dare to take. But the Tribune's neighbors, the Chicago Inter Ocean, Times, News and Record-Herald were scarcely less enterprising. The iconoclastic daring of Chicago journalism even startled New York with its Pulitzers and Hearsts. Chicago journalism, like the city itself, has long been one of the wonders of the times.

The Middle West has many powerful newspapers. Detroit has long had a great journal in the Free Press on which "M. Quad" (Charles B. Lewis) made his reputation. Cleveland has for more than forty years had two superb papers in the Leader and Plaindealer; Toledo in the same state has given to the country one of its famous journals, the Blade. During the war no man read more carefully the letters of "Petroleum V. Nasby" than did Mr. Lincoln. In reconstruction days Nasby's pen made the Blade sought through all the Central West. In southern Ohio, Murat Halstead in Cincinnati had built up the Commercial Gazette to a place, where it had become to the Republican party of the Central West a power like Greeley's New York Tribune in the East.

As we enter the Southern States, we find in Kentucky, Colonel Henry Watterson, who inherited the editorial chair of George D. Prentice on the Louisville Journal, consolidated it with the Courier, and for a long generation has stood with his Courier-Journal in the forefront of great American newspapers. Its personal power, with Colonel Watterson still editing it, even survived the "golden age" of impersonal journalism. Indeed, Colonel Watterson is the last of the great personal journalists.

St. Louis has given to the American people two great newspapers, the Globe-Democrat and the Republican. The Globe-Democrat, a radical Republican paper, became a virile journalistic force in the Southwest in the later seventies and eighties under the direction of J. B. McCullaugh,

who in defining journalism said "it is that thing which is always on the spot when hell breaks loose." Charles W. Knapp made the Republic what it long has been, the great political rival of the Globe-Democrat. Kansas City has a great newspaper in the Star.

Passing into the West, St. Paul and Minneapolis have been fortunate in possessing such excellent papers as the Pioneer-Press and the Sentinel. Denver is proud of the Rocky Mountain News. San Francisco was noted as far back as twenty-five years ago for its Chronicle, Call, and Examiner.

These papers have long kept pace with the great Eastern papers.

The Southern States have stood for the ablest journalism. After the war, Colonel A. H. Belo rode all the way on horseback from Virginia to Galveston, Texas, secured control of the News, edited it for nearly thirty years, and made it the great paper of Texas. Who has not heard of the New Orleans Picayune? For twenty-five years, one could scarcely read a column of copied paragraphs in any paper in the country without finding the Picayune, the Detroit Free Press, the Toledo Blade and the Yonkers Statesman quoted. But New Orleans has long had another famous paper, the Times-Democrat. Memphis has its Appeal. Atlanta has its Constitution, the paper through which Henry W. Grady made the "New South" conscious of itself and of its great future. Atlanta journalism is in its way as wonderful as Chicago journalism. There is nothing in its sphere too great for it to attempt, and this has been true ever since Grady inspired the Constitution. In the News and Courier, Charleston, South Carolina, has for over a half century had a potent moulder of Southern opinion. In the reconstruction days, and after when Colonel F. W. Dawson edited the News and Courier, the whole nation watched for its utterances. Baltimore, in the Sun and the American, has stood in the foreranks in the procession of journalism.

The last two decades in American journalism have witnessed the rise of the two modern factors in journalism-Pulitzer and Hearst, moulders and formers of a new style of journalism which has injected itself more or less into every community. Pulitzer was a foreign element, an importation. He was unquestionably the great factor of modern journalism. These two men introduced the progressive features of modern journalism, magazines, comics, political cartoon, human interest articles, etc. Previous to them, the newspaper was a chronicler and purveyor of news, stated in a comparatively conservative and prosaic style. They introduced the snap and sparkle into up-to-date journalism and have demonstrated that while the newspaper primarily is a purveyor of news, to fulfill its proper functions in any community, it is also a teacher, a preacher and a servant to the

interests of the people.



GREAT AMERICAN INVENTIONS—Alexander Graham Bell, inventor of the telephone, opening first long distance line between New York and Chicago in 1892—Human voice first spoke across continent from New York to San Francisco in 1915.



FAMOUS ASSEMBLAGE GREETING BENJAMIN FRANKLIN—Among those present on this historic occasion were the Archbishop of Canterbury, Edmund Burke, the Bishop of Salisbury. Dr. Priestley, and ladies of the nobility—This rare engraving was made in 1859.



FIRST AMERICAN STATESMAN TO APPEAR BEFORE BRITISH LORDS. This historic engraving shows Benjamin Franklin as he stood before the lords in council at Whitehall Chapel in London in 1774—Franklin is presenting the American cause to the mother country.



AN AMERICAN SHRINE-MOUNT VERNON-The home of Washington stands on a 200-foot bluff everlooking the Potomac, fifteen miles below Washington, in Virginia-Here is preserved the key to the French Dastille-Washington died in South room on first floor.

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We have considered, in the foregoing list, some of the representative American newspapers. But nearly every city in the country, even ranking as low down as 25,000 inhabitants, has had for many years one or more first class newspapers. All the papers mentioned above have progressed from "personal journalism" to the "new journalism" and are more powerful to-day than ever before. From personal organs, they have become great financial enterprises. Their capital has been increased from ten to a hundred fold within the last twenty years. These solid papers are established on as firm a foundation now as the great banks, the big factories, and the giant corporations of the country. Journalism has been organized as a science, an art, and a business. The collection and purveyance of news by these institutions, with their press association and other vast facilities, are worked out on the scale of governments and nations.

And the greater the American newspaper grows, the clearer stands out this fact, that this country, with its vast area and broad democracy, can never have one paramount national newspaper as the London Times was for so long a time in England. Every city and section will have its great newspapers, but even New York, with its gigantic financial power and influence, cannot control the fields in Boston, or Philadelphia, or Washington. This fact keeps the journalism of the country on an even keel and standardizes the news of the nation. If any city has no strong newspaper to-day, it is largely its own fault and not due to the competition of another city. There are few exceptions in the comparatively small cities within the radius of Chicago, New York, Boston, Philadelphia, Baltimore, Atlanta, New Orleans, and San Francisco. But there can be no great national newspaper in this country, no more than there can be a great national city which controls all other cities. Each newspaper performs its own important duties in its own field.

As the national and the state news have been standardized in its collection and purveyance, a newspaper in one city differs from that in other cities only in its local character. Without this emphasis on local news, local self-government would not be possible. One of the greatest services of the American newspapers has been their work for municipal reform within the last twenty years.

There is one more point, among the multitude that might be cited in weighing the value of the American newspaper—it is its economic value. The whole modern mercantile world is being built upon the newspaper, and its prosperity depends upon the newspaper. The public press stands like the telephone and the telegraph, it is the message-bearer between the separated parties at each end of the line—it brings them together and into communication and agreement. Its advertising columns are the links be-

tween the selling world and the buying world—one of the most important economic links in our whole system of civilization. The newspaper, therefore, is not only the power that unites the peoples of the earth under a common intelligence—the greatest democratizer in the world; it is the keystone of our political institutions, the foundation of our civic and social structure; the champion of law and ethics; the supreme court of public opinion. It is all these, and much more—it is the Ambassador of the Business World.

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"Let the bugles sound the Truce of God to the whole world forever."

-Charles Sumner.

EACE rules the day, where reason rules the mind"—this truism, or altruism, is the basis of American statesmanship. And yet the true statesman realizes that reason unfortunately does not always "rule the mind" and therefore peace does not always "rule the day." "We love peace," said Jerrold, "as we abhor pusillanimity; but not peace at any price. There is a peace more destructive of the manhood of living man than war is destructive of his material body. Chains are worse than bayonets."

True statesmanship is not the art of diplomatic strategy, or political intrigue, or secret machinations and agreements; it knows neither cunning, wit, nor power of personal persuasion. It is first, last, and all the time defending the principles for which a nation stands and, by the power of right and justice inherent in those principles, bringing them to a peaceful triumph over all opposition by the force of their own truth. Statesmanship is justice prevailing over injustice, right over wrong; it is the essence of absolute fairness among men and nations. Pope in his moral essays speaks of a statesman as:

"Statesman, yet friend to Truth, of soul sincere, In action faithful and in honour clear; Who broke no promise, serv'd no private end, Who gain'd no title, and who lost no friend."

Burke, in his "Reflections on the Revolution in France," defines statesmanship as "a disposition to preserve, and an ability to improve, taken together, would be my standard of a statesman."

Here in America we have developed, if unselfishness, world-vision, and nobility of purpose are any criterion—a new type of statesmen pledged to the immortal doctrine of Lincoln "that this nation, under God, shall have a new birth of freedom; and that the government of the people, by the people, and for the people, shall not perish from the earth." Let us measure some of our statesmen by this high standard.

Personal or party preferences may influence us in our estimates of the services rendered to this country by the various statesmen who have

guided its destinies. On one point, however, we are all agreed—their attainments in statesmanship were the result of their own individual exertions and force of character rather than of fortunate circumstances. Success of achievement was invariably the result of nobility of aim.

An ardent love of liberty characterized the earliest colonial statesmen: John Winthrop, Roger Williams, William Penn. The free spirit that was to detach the colonies from the mother country is well reflected in Penn's famous statement: "Liberty without obedience is confusion and obedience

without liberty is slavery."

The first statesman to see the advantages of American independence from Great Britain was Samuel Adams (1722–1803), who has been called the "Father of the American Revolution." When he took his master's degree at Harvard College, in 1743, he declared in his oration that "it is lawful to resist the supreme magistrate if the commonwealth cannot other-

wise be preserved."

The first great American statesman of world renown, however, is Washington (1732–1799), a man whom his countrymen offered to make a king, but who was to carry out that proposition in freedom. Physically and mentally, he was fit to become the "Father of his country," embodying as he did every ideal of manhood. Over six feet in height, robust and perfectly erect, solid rather than brilliant, and endowed with more judgment than genius, he carefully weighed his decisions; but his policy once settled was pursued with steadiness and dignity, however great the opposition. A firm advocate of free institutions, he believed in a strong government and rigidly enforced laws. As an officer, he was brave, enterprising, and cautious. He showed in his campaigns the qualities that made him a great statesman. His tactics were always judicious. As Lord Brougham said: "Until time shall be no more, a test of the progress which our race has made in wisdom and virtue will be derived from the veneration paid the immortal name of Washington."

The American nation had a hard struggle for existence. The theory of self-government was an experiment. The new republic was threatened with bankruptcy. European powers were taking full advantage of the conditions. In a brief time 900 ships had been seized by the British and 550 by the French. While President Madison insisted on temporizing, the Speaker of the House, Henry Clay (1777–1852), waged a strong fight to defend the honor of the country. All the committees of the house were placed under the control of the war party. The results of the War of 1812 justified Clay's attitude. "Let any man," he said, "look at the degraded condition of his country before the war, the scorn of the universe, the contempt of ourselves, and tell me if we have gained nothing by war.



ESTABLISHMENT OF LIBERAL GOVERNMENT IN AMERICA—William Penn negotiating his celebrated treaty with the Indians in Pennsylvania in 1683. Here he haid the Quaker foundations in America, stating: "We lay the foundation for ages as men and Christlans—We put the people."



"GIVE ME LIBERTY OR GIVE ME DEATH"—Patrick Henry delivering his epoch-making oration before the Convention in Richmond, Va., on March 23, 1775—The firebrand that ignited the spirit of Revolution.



END OF THE AMERICAN REVOLUTION—This engraving shows Washington resigning his commission as Commander-in-chief of the American army at Annapolis,

December 23, 1783—He had led his people to independence.

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What is our situation now? Responsibility, and character abroad, security and confidence at home."

This was Henry Clay—a statesman. Through his strenuous and picturesque career, Clay, who had been called a Southern man with Northern ideals, never forgot the distressed and oppressed of this and other lands. His sympathies went out not only to the Latin-American republics, but to Greece, to Hungary, and to the enslaved Africans of our own country. Many a time he offered to free his slaves provided some one guaranteed

their maintenance. At his death, Lincoln pronounced his eulogy.

The "great expounder of the constitution" was Daniel Webster (1782-1852). He is still discussed by historians. Was his attitude toward the tariff statesmanlike? His enemies point out that he changed sides on that question. His friends remark that New England was not in favor of a protective tariff in 1826 but was in favor of it two years later. His enemies declare that he sacrificed principle for personal expediency when the slavery compromise of 1850 came up for discussion. No man had denounced slavery more bitterly than he did, but he was willing to support the Fugitive Law and to leave the question of slavery in the new Territories to the laws of nature. His friends and enemies alike, however, agree that he was honest. He died very poor and deeply in debt. A lawyer and orator of genius, a great power in the land, a defender of the nationality of the States, he was all his life unalterably de-

voted to the perpetuity and integrity of the Union.

The third brilliant star that shone in the political sky of the American republic during the first half of the Nineteenth Century was John C. Calhoun (1782-1850). A Southerner born and bred, his logic was convincing, his reasoning implacable, his intellect calm. The fire of his genius burnt itself out in a defense of the institution of State rights, and he died just as the cause to which he had devoted his life was on the point of decision. An ardent patriot, he did more than any other man to bring about the annexation of Texas and, although a great pacifist, he sounded the clarion call when the country was in danger of aggression at the hands of England and France. He was an ardent supporter of the policy of internal improvements. He projected national roads, a system of inland navigation destined to foster commercial relations between the various parts of the country. A fervent advocate of State rights, he earned the name of the Great Nullifier. Though he had ambitious dreams, his course was singularly free from even the appearance of self-seeking. And no breath of slander ever stained his name. The great system of national transportation which Calhoun had planned was to be realized-but in a way that Calhoun had little dreamt. Instead of roads and canals, rail-

roads were to unite North and South, East and West, and open that hitherto mysterious land lying beyond the Mississippi which until then had

only been "The West."

The first great statesman for American expansion was Thomas H. Benton (1782-1858). He devoted the thirty years of his parliamentary activity to a strenuous fight for railroad construction and development. His efforts finally culminated in the building of the great Central Pacific Railroad. Born in North Carolina, Benton was, however, a typical Westerner of the aggressive, alert, self-asserting kind. He had no sectional prejudice and did his best to develop every part of the country without showing any partiality. A great railroadman by vocation, he put himself on record in many other directions. He combated fiercely the spoils system introduced in American politics, and it was the boast of his life that none of his blood-relations had ever asked for office. Although a slave-holder from a slave State, Benton allied himself with the Union and opposed Calhoun's plan of nullification. His love of freedom and independence caused him also to support Jackson in the fight against the rechartering of the United States Bank. He felt that such an institution would eventually wield too great an influence upon the people and the government of the States. His heroic attitude cost him his seat in the Senate and later his seat in the House. He then retired from public life and undertook his work, "Thirty Years' View," one of the greatest records of political life in America.

Typical of the romantic days in politics, when great events crowded upon one another, is the life story of William H. Seward (1801–1872). Running away from home at seventeen, and being a few years later appointed principal of Union College at Eatonton, Georgia, is an extraordinary début for a young man. He was not destined to become an educator, however. At thirty-three, we find him almost elected to the governorship of New York State. Four years later he carried the election. During his governorship, many wise measures were introduced. Imprisonment for debt was abolished, the cause of general education was advanced, internal improvements were made, and foreign immigration fostered. A rival of Lincoln and then a member of his cabinet, he fought bravely for the abolition of slavery; a deep friendship united the former rivals and only a mere hazard saved Seward from sharing the fate of the martyr President. An important incident of Seward's career was the purchase of Alaska from Russia by the United States Government-a transaction that he conducted with great skill and ability.

We now stand face to face with democracy's greatest champion—humanity's statesman—Abraham Lincoln (1809–1865)—a man who was

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much more than a statesman, who was a giant in every way, physically, mentally, spiritually. To recount his achievements or even barely to enumerate the problems which he mastered during his Presidency would fill volumes. We prefer to present him in this short sketch as a typical product of the heroic times in which the republic was struggling to assume shape, consistency, and permanency. The son of New Englanders. who migrated from the Atlantic coast to Kentucky, thence to Indiana and finally to Illinois, Lincoln led first the rough and ready life of a frontiersman. He chopped wood, and split rails, and did carpenter work. He went to school not more than a year in his entire life. But he read every book and newspaper available, and everything he read he made his own. Whatever he undertook, he mastered. Storekeeper, postmaster, land surveyor, lawyer—he studied in actual practise all the economic, political, and human problems which he had to solve late in life. His kind nature, his broad mind, his inexhaustible wit, together with his strange physical appearance, have made of him a fascinating figure—perhaps even more attractive to the American people than that of Washington. With all his sterling qualities, Washington was to a certain extent tinged with aristocratic tendencies after the English heart, but Lincoln, the rough Kentucky boy, was in the noblest sense of the word a self-made manthe greatest claim to the admiration of a manly, vigorous race. Lincoln stands before the world as "the Great Emancipator"; his great humane policies during the American Civil War, his speeches which embody the whole spirit of a free people, make Lincoln without peer the greatest exponent of democracy in the world's history.

American party politics and diplomacy bring forth many strong figures but it is our purpose here only to sketch a few whose human qualities were preëminent. There was Samuel J. Tilden (1814–1886)—at eighteen years of age he made just one address to the people of New York State that undermined one of the most powerful party coalitions in history. His address prevented the Anti-Jackson men and the Anti-Masons from carrying the State in 1832. Years later, he was to break up the ring which under the leadership of William M. Tweed ruled New York City from 1869 to 1871. As Governor of New York State, one of his first acts was to attack the so-called "Canal Ring" which was robbing the State

and preying upon internal commerce.

Statesmanship found a stalwart champion in James G. Blaine (1830–1893), Secretary of State under Presidents Garfield and Harrison. America is indebted to him for initiating the movement which is knitting more and more closely together all the Americans. Forty years ago, when this country was totally indifferent to the opportunities of Latin American

commerce, Blaine advocated the payment of subsidies to steamship lines plying between the ports of the United States and those of Central and South America. He showed how the great trade of those countries went to Europe instead of coming to the United States and organized the first Pan-American Congress which has cemented the relations of the republics

on the Western Hemisphere.

One of the most admirable figures in all the history of American statesmanship was John Hay (1838-1905). He distinguished himself in four great spheres of action—in journalism, in literature, in diplomacy, and in administrative statecraft. He was one of America's greatest editors, justly entitled to a place with Greeley and Dana and Raymond. As the author of the "Pike County Ballads," he stands with Lowell. At the court of St. James, he forever clinched the friendship between England and America and rendered to both countries a service only second to that of Charles Francis Adams during our Civil War. As Secretary of State he easily won from England, through his great skill, the Hay-Pauncefote Treaty, which gave America the right unmolested to build and own the Panama Canal. He also won for America and for the Chinese the open door in China. But Hay was born to inherit a great opportunity. He came to be at Lincoln's elbow and to hear the whisper of his great soul in the country's darkest hour. Hay had his Lincoln, but it should be recorded that Lincoln had his Hay and we should never know Lincoln as we do without this gifted secretary. From Hay's diaries and other papers published after his death, it is easy to follow the work of his hand in the Lincoln administration. Hay was not only a wise statesman but a man of great nobility of character and personal attractiveness.

These incidents in the lives of American statesmen might be enumerated indefinitely, while the achievements of the great diplomatists present the large phases of world statesmanship, but it is sufficient to state here that each generation—every session of the United States Senate, every

political administration develops "a man of the hour."

American statesmanship is, and will forever remain, the foe to but one thing—that is, injustice. It is and forever must be working for but one purpose—that is, humanity. In the words of John Quincy Adams:

"This hand, to tyrants ever sworn the foe, For Freedom only deals the deathly blow; Then sheathes in calm repose the vengeful blade, For gentle peace in Freedom's hallowed shade."



BATTLE OF BUNKER HILL IN AMERICAN REVOLUTION—This memorable scene was enacted on June 17, 1775—The British, under General Gage, occupied Boston—The Americans were fortifying the heights of Charleston—About 2:30 o'clock in the morning, the British advanced with terrific fire and were twice repulsed in disorder—The Americans exhausted their, ammunition and were forced to retreat—General Warren fell, shot through the head with a bullet.



DRAMATIC MOMENTS IN AMERICAN REVOLUTION—Surrender of Col. Rall, British officer in charge of Hessians at Trenton, December 26, 1776-Washington fell upon them at daylight after their Christmas festival—Col. Rall had declared: "Let the rebels come, we will at them with the bayonet."

PART V CHAPTER XIV

GREAT AMERICAN SOLDIERS

"The hero is the world-man, in whose heart One passion stands for all, the most indulged."

—Bailey: "Festus."

HE soldier is and ever will be a mighty man; because he places above self the honor and integrity of his country. His willingness to sacrifice his life for a cause or a principle is one of the noblest expressions of human love. The lines from Niles, in his poem "The American Hero," give this valuation:

"Life, for my country and the cause of freedom, Is but a trifle for a worm to part with; And, if preserved in so great a contest, Life is redoubled."

The trade of soldier is one of the great evolutionary steps in human society. To him we owe not only the defense of our lives, our rights, and our property, but the human liberties that we now enjoy. The security with which we now live and move and have our being is due largely to the soldier; he fought and conquered the primitive instincts and primeval dangers; he protected and defended with his life the communities of interest that were nurtured into national ideals; and he has maintained these groups against extermination by other groups with his own valor and his own blood. Wordsworth paid the soldier this tribute:

"Doomed to go in company with pain,
And fear, and bloodshed, miserable train.
Turns his necessity to glorious gain;
In face of these doth exercise a power
Which is our human nature's highest dower."

With the coming of what we herald as the "war-less age"—an age when there shall be neither wars nor need for wars—the duty of the soldier should pass, but his deeds of valor will never dim. "Hero worship exists," said Carlyle, "has existed, and will forever exist, universally among mankind." A thousand years after the last bugle of war may have sounded, the laurels will still be laid on the soldier's grave—even though we shall have discovered in those days with Whittier that "peace hath higher tests of manhood than battle ever knew."

Napoleon, in speaking of the science of strategy, said: "The presence of a general is indispensable. He is the head, the entire army. It

was not the Roman army which conquered Gaul, but Cæsar; it was not the Carthaginian army which made the republic tremble at the gates of Rome, but Hannibal; it was not the Macedonian army which was upon the Indus, but Alexander; it was not the French army which carried war on the Weser and the Inn, but Turenne; it was not the Prussian army which for seven years defended Prussia against the greatest powers of Europe, but Frederick the Great."

This continent had produced great soldiers before the American Revolution, but they were then either English or French. It was only after Lexington and Concord that we can speak of American soldiers. The first great American soldier is Washington, the Virginian. Twenty days after the actual beginning of the Revolution, he was appointed Commander-in-Chief of the Continental Army. Washington had in the course of the French and Indian wars earned the reputation of a successful military man. When he accepted the commission in the Revolutionary Army, he stipulated that he was to receive no pay for his services. Upon reaching the headquarters of the army in Cambridge his difficulties were great. The army was unorganized. The soldiers were impatient under camp life and camp discipline and were discouraged by the lack of ammunition. This was the critical situation. Washington molded this fighting material into a great military organization, restored confidence, and aroused the inspiration which developed into the "spirit of '76."

American patriotism was organized into an efficient, vigorous, victorious force that finally swept the last vestige of monarchy from the American colonies. When, after the siege of Boston, General Washington betook himself to New York, which was threatened by the English, then occupying Staten Island, he had only 20,000 troops, ill-prepared and supplied with poor weapons. The English had 700 ships and 30,000 trained troops. The English were well drilled, plentifully supplied with ammuni-

tion, and regularly paid.

While we cannot in the space at our disposal recount the glorious history of the American Revolution, it will be quite sufficient to bear in mind the various handicaps that the Commander-in-Chief suffered to realize the full meaning of his final triumph. One of his greatest achievements, and one to which historians seldom refer, was the tremendous task of disbanding the army when peace again reigned in the land. Washington's firmness, his good sense, his tact saved the country from what might have been a terrible crisis. He bade farewell to his officers and retired from public life until 1789, when his grateful fellow-citizens conferred upon him the greatest honor it was theirs to give—that of first President of the United States.

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The most eminent soldier produced by the American Revolution (other than Washington) was Nathaniel Greene, a Rhode Island blacksmith of Ouaker birth. He was the fit counterpart of his great commander. Washington stood for the aristocracy of the South, Greene personified nobly the democracy of the North. They came to mutual appreciation by their similar qualities of common sense, rectitude, courage, and untiring application to details. A wonderful tactician, Greene, when technically defeated, succeeded on every occasion in retreating in good order and inflicting fearful losses on his enemies. It was after one of Greene's defeats that Charles James Fox exclaimed: "Another such victory would destroy the British army."

A picturesque old warrior who appeals strongly to the imagination -a representative of the fervid Americanism born of the Revolution-is Andrew Jackson. He occupies a conspicuous place in the military annals of this country. Too young to take part in the War of the Revolution, he was old enough to acquire a heroic love of the cause which spurred him to vigorous action when the storm burst in the War of 1812. The revolt of the Creeks gave him an opportunity to show his value as a commander. When the Creek war was over, Jackson on his own responsibility conducted an operation against Spanish Florida. Then he hastened to the defense of New Orleans. Jackson's troops were rough frontiersmen, armed with good rifles, ignorant of tactics and discipline, but perfect marksmen. He led them to victory on that historic day in 1815. The British lost 3,300 killed or wounded and 500 prisoners out of 7,000 men. The victor was suddenly magnified by this triumph, and the battle of New Orleans made him a representative figure in American politics.

The war against Mexico developed two vigorous military characters. Zachary Taylor had been fighting the Indians for forty years when he was entrusted with the command of the army operating against Mexico from the north in 1846. Early in the war, he defeated overwhelmingly the Mexican forces at Monterey and Buena Vista. Politicians, however, were playing havoc with the plans of the various generals. Most of Taylor's troops were called back, and he was forced to discontinue operations. Feeling himself ill-used by the Government, he resigned his command. He left a lasting memory among his associates. His soldiers called him "Old Rough and Ready." He was to them the personification of justice and kindliness. A plain and direct man, he loathed "fuss and feathers," never wore a uniform, and went into action with a straw hat and a linen

duster.

Few American soldiers have been more neglected by historians than Winfield Scott. It was his misfortune to end his career when public at-

tention was riveted on the tremendous events of the Civil War, which soon dimmed the memory of his exploits. Scott never was put to the test of handling large armies, but in his small field he played his part like a great strategist. His march from the coast to Mexico City, following closely the route once adopted by Cortez, would have ended tragically for most warriors. The natural obstacles encountered on his way to the table-land, and the superior numbers of the enemy, taxed heavily his commanding capacities, but his discipline, skill, and intelligence won the victory. In five months he reached Mexico City, and the war was practically terminated.

It was the American Civil War that brought the great soldiers to the front-soldiers whose names stand to-day among the world's masters of military strategy. The genius behind the armies of the Union and the Confederacy made this war a terrific contest in the skill and wits of great men. Let us look first upon the strong, bold figure of the victor—the quiet man with the indomitable will—General Ulysses S. Grant (1822–1885). Here we see a graduate of West Point; he served in the Mexican War under Taylor and Scott. Through a chain of fortuitous circumstances he resigned from the army and became a clerk in his father's leather store in Illinois. There it was that the outbreak of the Civil War found him. His past experience enabled him to forge rapidly to the front, and he was soon made a brigadier-general. His capture of Fort Donelson brought him prominently before the country, and the part he played in this country's greatest war need not be retold. It is sufficient to state that by sheer force of decision, by his genius in commanding great bodies of men, by his skill in driving them through terrific campaigns, by his ability to wear down his adversary in numbers, munitions, and food supplies-by taking the fullest advantage of all these conditions and, above all, by his tenacity -he brought the Union arms to victory.

And it was a noble adversary that he met in a noble way on that momentous day of surrender. Grant and Lee are two magnificent examples of American character at the moment of its supreme test. Grant ennobled victory; Lee ennobled defeat—both clasped hands as an expression of a reunited people and pledged themselves to the principles set forth in "America—The Land We Love." There is no name in American history that evokes a more instant throb of affection in either the North or the South than that of Robert E. Lee. Leader of a lost cause, he won admiration in defeat by his great heart, his great soul, and his strength of character. Lee led his people through the greatest crisis in our national life—the saddest struggle in the history of nations.

It is unnecessary here to discuss the causes of the Civil War; they were



BATTLE OF MONMOUTH IN AMERICAN REVOLUTION—Here, in excessive heat after long marches, Washington's Army met Sir Henry Clinton on June 28, 1778—Where Moll Pitcher took her dead husband's place as canoneer.



BATTLE OF EUTAW SPRINGS IN AMERICAN REVOLUTION—This severe battle was fought in South Carolina, on September 8, 1781—The British were driven from the field but rallied unexpectedly and renewed the battle, finally to retreat.



CRISIS IN THE AMERICAN REVOLUTION—This engraving shows Washington at the Battle of Trenton—Here, in December, 1776, he rallied his discouraged forces and defeateed the Germans, who were fighting under the British flag—This victory caused a great wave of patriotism among Americans.

GREAT AMERICAN SOLDIERS

indeed unfortunate, but as Americans to-day we can all pay tribute to Grant and Lee. Both have been accorded notable positions as great soldiers. Lee fought a losing cause to exhaustion—and then won a great triumph of peace in his closing years. The scene of his surrender is probably the most pathetic and affecting event of the whole war. A plain room with two men: one in gray, and the other in blue—Grant and Lee. The business that brought them together was settled in a few minutes. Grant, filled with reverence for the valor of his adversary, accorded him all the consideration he deserved and accepted the parole of 28,000 men and their officers. Having become once more a citizen of the United States, Lee maintained during the period of reconstruction an attitude of dignified silence and stood loyal to American institutions.

The Civil War brought forth many strong men. Here we can mention but typical examples of American soldiery. In the Union Army one of the conspicuous figures is William Tecumseh Sherman (1820–1891). He first served in the Seminole War; then resigned from the army and entered first mercantile and then professional life. He re-entered the army at the beginning of the Civil War and was present at the first battle of Bull Run. When Grant was made commander-in-chief, Sherman was given the command of the chief armies in the West. Sherman carried out Grant's strategical plan to destroy the enemy's prestige by marching through its country and destroying the supplies sent to the Southern armies in the famous march through Georgia. The credit for Lee's capitulation at Appomattox is clearly due first and foremost to Grant. But the chief subordinate factor in that victory was the use of cavalry in the form of a massed division of mounted infantry and its brilliant leading by Philip Sheridan. The march of his corps from Petersburg to Appomattox is a great military object lesson. In no war has there been observed a better strategical and tactical use of mounted men.

A virile, magnetic figure in the Army of the Confederacy was that of Stonewall Jackson. He has been likened to Cromwell. Like Cromwell, he had daring; he was swift in execution, decisive in crisis. He is best characterized by one incident of the first battle of Bull Run. General Bee galloped toward him shouting: "They are beating us back." Not a muscle on Jackson's face moved. His thin lips parted, and he simply answered: "Then we will give them the bayonet." And Bee, riding back toward his routed soldiers, called out to them: "Look! There is Jackson standing like a stone wall." The men took up the cry and pressed forward. Fate willed it that at Chancellorsville, Stonewall Jackson, through a fatal error, should be shot in the very instant of victory by the soldiers who idolized him. He died a few days later, having received

from Lee a letter which contained that sentence of heroic grandeur and simplicity: "Could I have directed the course of events, I should have chosen for the good of the country to be disabled in your stead."

The last Confederate general to capitulate was Joseph Eggleston Johnston. His army surrendered to Sherman and was disbanded. It was his duty to act as pallbearer at the funeral of Grant; the man who twenty-two years before at Vicksburg, had declared that Johnston was the only soldier he feared on the Southern side. Johnston rendered the same homage to his great opponent Sherman and in the performance of that duty caught a chill which a few weeks later met with a fatal result.

The Warrior. Let us pledge this parting toast to him:

"Soldier, rest. Thy warfare o'er,
Dream of fighting fields no more;
Sleep the sleep that knows no breaking.
Morn of toil, nor night of waking."
—Scott.

And with Bayard Taylor let us give due reverence:

"Sleep soldiers. Still in honored rest Your truth and valor wearing: The bravest are the tenderest,— The loving are the daring." PART V

GREAT AMERICAN JURISTS

"The foundations of Justice are that no one shall suffer wrong; then, that the public good be promoted."

-Cicero.

USTICE—here we have the scales that weigh the policies that regulate civil society. And any deviation from it, under any circumstances, throws human society into chaos. "Justice," as Addison says, "discards party, friendship, kindred, and is always therefore represented as blind"—blind to everything but justice. And justice itself must find its medium for expression in law, which again must be founded on reason.

"Reason," said Coke in his "Institutes," "is the life of the law; nay the common law itself is nothing else but reason." Froude, in his "Short Studies on Great Subjects," remarks that "just laws are no restraint upon the freedom of the good, for the good man desires nothing which a just law will interfere with," adding in another essay that "our human laws are but the copies, more or less imperfect, of the eternal laws, so far as we can read them."

The American Nation stands before the world as an attempt to gather all the races of the earth into one family group pledged to an effort to establish not exact but comparative justice, or as nearly so as human imperfections will allow. It is a noble undertaking that will require many epochs of experimentation to establish the principle on a permanent working basis, and will require constant readjustment to conform with the ever-changing needs of the people in their social and economic evolution.

Law, therefore, other than its Mosaic foundations, cannot remain static; it is a growth, an evolution, subject to all the transformations and all the frailties of the human race. Thus we have our courts of law as the public tribunals in which the people may gather to protect their lives and their rights, to arrange an equitable distribution of property, and to maintain the equilibrium of society. These courts prove openly to the world the measure of our ability or inability to control that subtle power which we call Justice. Courts of law should be neither places of severe discipline nor chambers which cast fear upon society, but rather houses of refuge for the oppressed. "No government is safe until it be fortified

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by good will," said Nepos, while Terence, another Latin writer, truly remarked: "It is a great error, in my opinion, to believe that a government is more firm or assured, when it is supported by force, than when founded on affection."

There are more than thirty thousand lawyers practising before the courts of the United States to-day. Billions of dollars have been expended to build courthouses. The judicial system in operation has been explained in another chapter, and it is possible here only to consider a few of the strong characters that have given their lives to the upbuilding of this system of jurisprudence in America. Many men who distinguished themselves at the bar or on the bench were also eminent in the public service. We shall therefore confine our remarks to those who have shone forth more brilliantly in the legal profession than in any of their other activities.

The first eminent American jurist was John Marshall (1775-1835). So famous did he become as a Chief Justice that few people know that he was also a soldier, an envoy, a historian, and a statesman. He became of age two months after the Declaration of Independence was signed and enlisted in the American Revolution. He fought in two of the most important engagements in the campaign of 1779. Soon afterward he began to study law, and, after the surrender of Cornwallis in 1781, gained reputation as a brilliant young barrister in his native Virginia. Marshall did more than any one else, except Madison, to induce Virginia to adopt the Federal Constitution. At the request of George Washington, he ran for Congress and was elected in 1700. A year later, he was appointed Secretary of State and rendered great service to the nation. For thirty years, he was the respected Chief Justice of the Supreme Court of the United States. He interpreted the Constitution in the most liberal spirit and discharged his heavy duties with a moral courage that won respect and confidence from every one who knew him.

The rulings and arguments of Marshall were of the greatest importance to the courts, for the machinery of the new government was still working experimentally, and the Constitution was only vaguely understood by the majority of the lawyers. Judge Story said of Marshall: "If all his other judicial arguments were taken away from us, his clear exposition of constitutional law would have sufficed to make his name live forever." Some of the best-known cases that came before him which have since served as precedents were Peck vs. Fletcher, when an act of the State of Georgia was declared void; McCulloch vs. the State of Maryland, when the court decided that Congress had the power to charter a national bank with branches in all the States and that such banks could not be taxed



FAMOUS ORATIONS IN AMERICAN HISTORY—This painting by Rothermel shows Patrick Henry delivering his celebrated speech before the House of Burgesses in Virginia in 1765. The aristocratic Burgesses were astounded as the young statesman denounced the crown and proclaimed the principles of liberty to the American people—

The cry of "Treason!" rose from all parts of the house—Henry paused a moment and then thundered: "Caesar had his Brutus, Charles the First his Cromwell, and George the Third may profit by these examples. If that be treason, make the most of it!"



GREAT MOMENTS IN AMERICAN HISTORY—This painting by Carpenter presents Lincoln surrounded by his ent, at the time of the signing of the Emancipation Proclamation. This Proclamation exterminated on September 22, 1862.



SIGNING THE EMANCIPATION PROCLAMATION—This Proclamation, by a single stroke, struck the chains of bondage from more than three million humar beings—It destroyed the institution of slavery that had been drafted into the American nation since its foundation.



FIRST CONTINENTAL CONGRESS-It assembled in Carpenter's Hall, Philadelphia, on September 5, 1774-Eleven of the English-American colonies were represented by forty-four delegates-Session opened with prayer by Rev. Jacob Duche.

GREAT AMERICAN JURISTS

by State authority. Aaron Burr's trial for high treason also came before him, and on many points the Chief Justice boldly stood at variance with the most important men of the day.

The great diplomatic negotiations which took place after the American Revolution will always be associated with the name of William Pinckney, one of the leading lawyers of his day (1764–1822). He was selected by Washington as one of the commissioners to England mentioned in Jay's treaty. For eight years he stayed in London and performed his arduous duties with great skill. On his return home he became Attorney-General of Maryland, but went back to London to settle the delicate question of England's right to seize English seamen on board of American vessels. He returned in 1811 and accepted the office of Attorney-General of the United States.

The name of Kent holds an eminent position in American law. James Kent (1763–1847) was a New York man educated at Yale. At an early age he became Judge of the Supreme Court of New York State, Master in Chancery, and Recorder of the City of New York. With Judge Ratcliffe, he revised the legal Code of New York. He was appointed Chief Justice of the State, and later Columbia appointed him Professor of Law and Chancellor. His fame rests mostly upon his lectures, which he printed in book form under the title of "Commentaries on American Law" and which have become classics for every member of the bar.

Few jurists have enjoyed the respect that has been accorded to Joseph Story, a classmate of the great preacher Channing, a pupil of Samuel Sewall and Judge Putnam. His name became prominent for the first time in the course of the debate relative to the Embargo Act. Though a Democrat and a faithful follower of Jefferson, he separated himself from his leader when the question arose of the repeal of that act. When Madison took Jefferson's place as President, he appointed Story as Chief Justice of the United States. Story was only thirty-two then, and he filled that responsible position with ability for thirty-four years. He helped to revise the Constitution of Massachusetts, and taught law at Harvard College. His lectures covered a very wide range of subjects; laws of nations, laws of the sea and of commerce, federal equity, constitutional law, etc. His opinions on these various topics generally agreed with those held by Chief Justice Marshall. Story's written works make over sixty volumes; not only do they contain an invaluable treasure of information but their clarity of style makes them documents of no mean importance in American letters.

A great statesman as well as a jurist was Rufus Choate (1799-1858). His splendid legal talent made him the peer of the greatest lawyers in

history. It has been said, that whether he addressed a jury of twelve men or a crowded audience, he seemed to bend men's minds to his own will, for no one had a better knowledge of psychology and of the means to make the most effective appeal to human intelligence and emotion. While arousing his audience to the highest pitch of excitement, he remained perfectly cool and self-controlled. Later, he held the Senate under his mighty power as he had the court-rooms. His addresses on the McLeod case, the Fiscal Bank Bill, Oregon, the Tariff, the Smithsonian Institute, mark an epoch in the proceedings of the Senate, although he remained a member of that body but a single year.

Those were days of epoch-making decisions. There was a young student under Judge Story in the Harvard Law School, who afterward became his most intimate and faithful friend. It was Charles Sumner (1811-1874), who studied so diligently that he was admitted to the bar at the age of twenty-three. Those, too, were the days when men like Wendell Phillips, Gerrit Smith, the Tappan brothers, Salmon P. Chase, and others, were devoting their energies to abolitionist propaganda, and the country was becoming deeply divided on the subject of slavery. It was impossible for an intelligent man to remain neutral on that question. Sumner's feelings were with the abolitionists, and before long he had become well-known as their exponent. His Fourth of July Oration, delivered in Boston in 1845, was reprinted throughout the country. It thrilled the American people with the spirit of liberty.

In the Senate, Sumner opposed courageously the Fugitive Slave Bill, which made it lawful for United States officers to arrest runaway slaves found in the Northern States, and he was one of the leading debaters on the famous Kansas-Nebraska Bill. It was after a splendid address in favor of admitting Kansas into the Union, in which he showed the growing power of slavery, that he was attacked by an ardent opponent in Congress and so severely injured that for a number of years he could not enter

into active public life.

Near the close of Buchanan's term, Sumner returned to the Senate and pronounced his famous speech on "Slavery." He worked for Lincoln in his presidential campaign, and, although the two did not agree on the method of solving the slavery question, they were very warm friends. Sumner was Lincoln's constant adviser in legal and public matters and was known as a minister outside the cabinet. Sumner made a speech in 1869 that has remained historic—it was a brilliant argument upon the Alabama Claims, that is, the claims of the United States upon Great Britain for the damage done by the Alabama and other Confederate privateers allowed to escape to sea. His last important act was to press his Bill

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of Rights, by which the law was made the same for colored and white people in every State of the Union.

Sumner was a man of extraordinary will-power and influence. There was perhaps no one in the Senate, during the twenty years he was a member of that body, who could wield so strong an influence on the American people. Favor or popularity did not count with him, but he often succeeded in creating a favorable feeling about certain unpopular causes by the honesty and the ardor with which he championed them. This was plainly the case in regard to the Confederates, Mason and Slidell, who had been taken off a British vessel during the war; in regard to the act of freeing the slaves, which he urged Lincoln to perform after Antietam; and upon the San Domingo question, when he opposed the idea of making that island a part of the United States.

The front ranks of the legal profession included William Maxwell Evarts (1818-1001), educated at Yale and later at the Harvard Law School. He became Federal District Attorney at thirty-three years of age. When President Johnson was impeached. Evarts was his chief coun-Soon after that great question was settled, he was appointed Attorney-General of the United States. Four years later, he was again connected with a famous case. This was the affair known as the Alabama Claims on which Sumner delivered his famous address. When at last a convention was agreed upon to effect a settlement. Evarts acted as chief counsel for the United States. His conduct of the case was brilliant. and our case was won with credit to the republic and to himself. He appeared as a national figure in the presidential election dispute, when the whole country was in doubt as to whether Tilden or Hayes had received the greater number of ballots. To decide the matter an electoral commission met to hear the claims of both candidates. Hayes was represented in the controversy by Evarts, who secured a decision in favor of his client and of the Republican Party. Evarts was a member of the International Monetary Congress in Paris, in 1881, and was elected Senator to the United States from New York in 1885.

So it has been that America always has had, and has to-day, many of the ablest jurists in the whole annals of human law. The record is too long and the fact too well established for further discussion in these pages. We will dismiss the subject with a statement of the duties of a judge as defined by Socrates: "Four things belong to a judge," he said, "to hear courteously, to answer wisely, to consider soberly, and to decide impartially." The greatest warning of all to the American people are the words of the Earl of Chatham in the case of Wilkes: "Where law ends, tvranny begins."

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GREAT AMERICAN FINANCIERS

"Money was made not to command our will,
But all our lawful pleasures to fulfill."

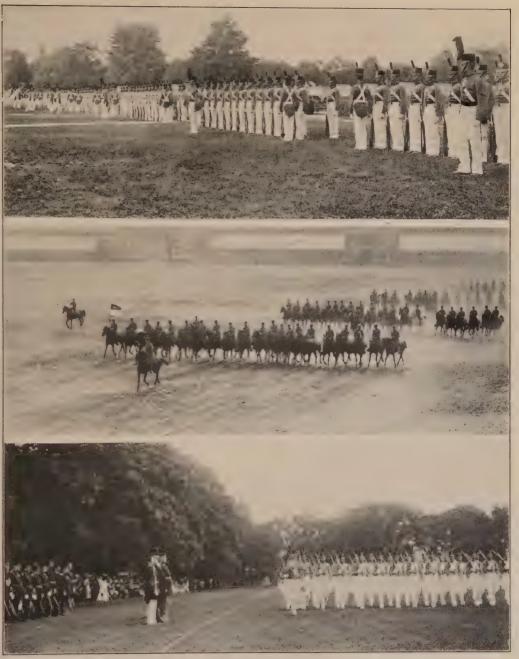
—Cowley.

HE building of a nation requires four dynamic forces—the domain on which to build; the plan with which to build; the men who are to build; and the money or resources to finance the three preceding factors. The importance of the last-named must not be either under- or over-estimated. It is the motive power behind men and ideas, the propelling force behind progress, the economic momentum behind all civilization.

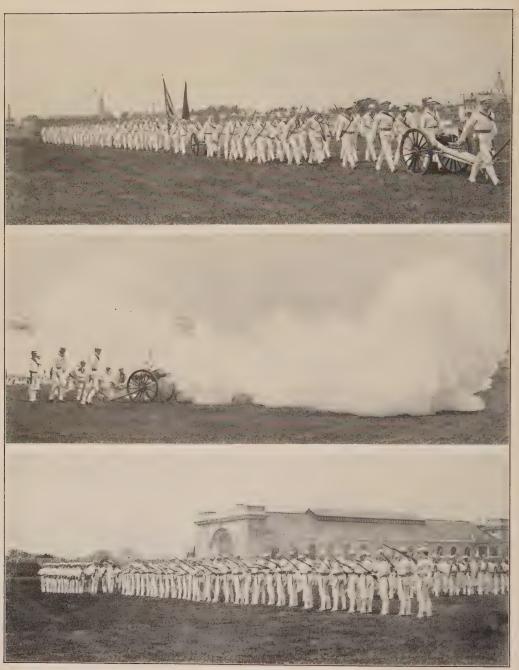
"The almighty dollar" is an American phrase, used first by Washington Irving. And it is quite true that the American people have placed a high standard on the creation of wealth, but it must also be remembered that the ambition for riches is as old as the human race; that men and nations fought and intrigued and went to decay in the seeking of wealth long before the American continent was known to exist. It was in fact the Old World's greed for gold that created the impulse which resulted in the discovery of America and which led to the founding of nearly all the settlements (except the Pilgrim, Quaker, and Jesuit foundations) on the Western Hemisphere.

Ovid in the days of ancient Rome declared: "Money brings office; money gains friends; everywhere the poor man is down," and spoke of "the ungovernable passion for wealth." Horace remarked: "All powerful money gives birth and beauty," while Sallust exclaimed: "Few set a higher value on good faith than on money." In the days of glory in England—the Elizabethan days—wealth was the mightiest power. Shakespeare, in his "Merry Wives of Windsor," proclaims: "Money is a good soldier, sir, and will on!" Milton, in his "Paradise Regained," pays this tribute to the power of money: "Money brings honor, friends, conquest, and realms." Pope exclaims in his moralizations: "Get Place and Wealth, if possible with grace; if not, by any means get Wealth and Place." Ben Jonson, in his characterization of the times, declares: "Get money; still get money, boys; no matter by what means." While Byron remarks that "ready money is Aladdin's lamp."

Thus, let it be known that the American people did not invent wealth,



WHERE THE GREAT AMERICAN WARRIORS ARE TRAINED—Glimpses at West Point on the Hudson River—This institution was founded in 1802—Appointments are made by the President—Nearly all the great commanders in the American wars have been graduated from this institution—It has contributed many eminent engineers and distinguished statesmen—The institution is limited to 668 cadets,



WHERE THE GREAT AMERICAN NAVAL OFFICERS ARE TRAINED—Here we look upon the Midshipmen at the United States Naval Academy at Annapolis, Maryland—This institution was established in 1845—It is here that the sea fighters are made who have fought so gallantly in the American wars—Their skill and bravery has given them first position.

GREAT AMERICAN FINANCIERS

but created it out of their own genius and the bounties of nature. It is neither the standard of attainment nor the goal of ambition in America, but merely the medium for expressing ideas, realizing higher ideals—the machinery for the operation of an economic system that brings to all the people the full measure of "life, liberty and the pursuit of happiness."

The financing of the American republic has been a heroic task—the banker has been of importance equal to that of the soldier. The untold wealth of the continent—its coal, iron, oil, gold, silver, copper—would still be slumbering in the earth were it not for the financial organization necessary to bring them to utility. The world-revolutionizing inventions—electricity, the telephone, telegraph, railroading, steamshipping—could not have come into existence without the finances with which to develop them. Labor and capital are brothers inseparable—each is impotent without the other; it is men first—and then money that forges the way for civilization.

The United States has achieved the stupendous feat of growing from a wilderness into the richest nation in the world in the brief span of one hundred and twenty-five years. It is a race of great financiers who have constructed our banking credit and have built our canals, and railways, opened our mines, developed our agriculture, established our industries, and financed our wars. Some of these men were heroes, some of them were romantic figures, some of them were saviors of the Government itself, some of them were great statesmen, and without their combined genius for making and using wealth, this continent never could have been conquered from nature. No people in the world owe so much to the men who know how to accumulate and use wealth wisely as the people of the United States owe to many of their great financiers.

We can speak of but a few of the best-known "kings of finance" in this brief chapter. The first is Robert Morris (1734–1806), the "financier of the American Revolution." At the outbreak of the war there were only 3,000,000 people in the colonies, and all of them together did not possess as much wealth as five rich men in the United States to-day. Yet this daring little group of liberty-loving people, separated into widely detached localities and without an effective, organic national government, undertook to throw off the yoke of the strongest nation in the world. They could not borrow a dollar abroad, for their so-called Congress had no power to tax them, and even the power of the individual colonies to tax

their people was very limited.

In the darkest hour of the American Revolution, just after the battle of Trenton, even the great Washington himself almost despaired. He wrote to Robert Morris, who had been appointed by Congress Super-

intendent of Finance, to raise immediately \$50,000 in gold and silver to pay the troops, warning him that failure would mean that a large number would refuse to re-enlist. They would not accept the worthless paper money. Morris knew the case was desperate. He was a prosperous merchant and a man of wealth—one of the signers of the Declaration of Independence and a great leader in the business world. Morris spent the whole night calling on his friends and begging them to contribute. At daylight he had raised the money that did a greater service to humanity perhaps than the expenditure of any other \$50,000 had ever accomplished. The army was saved. From that time on to 1784, the finances of the country were in Morris' absolute control. And the man who had saved the country was made a pauper by unfortunate land speculations and died in a debtor's prison.

The second great financier of historical importance is Alexander Hamilton (1757–1804), who organized our national financial plan. We have made seventeen amendments to the Constitution of the United States since it was ratified, and we have made hundreds of laws modifying its workings, but the vast machinery by which the revenues of our Government are collected and disbursed is still that which was devised and set in motion by Hamilton—the first Secretary of the Treasury. It was a tremendous undertaking, the work of a fertile and inventive mind, to organize a machinery so effective and yet so elastic that it would run for more than a century and work for a 100,000,000 people as it had done

for less than 5,000,000.

The Department of the Treasury, the whole financial system of the Government with its banking and credit, was the creation of Hamilton. It has been called the least of Hamilton's splendid work for the young republic, and yet it is a monumental achievement for the career of any man. When the United States had won its independence and had adopted the Constitution, chiefly under the leadership of Hamilton, almost every State was in a condition of fiscal debouch. Many thousands of dollars of worthless paper money were issued to bolster up the depreciated currency. Public and private bankruptcy prevailed, and industrial distress stalked through the land. Any sort of a financial system that would bring order out of chaos, stabilize financial transactions, and give integrity to public debts, would be an act of supreme statesmanship. Without this confidence and stability the republic would perish.

It was at the hour of this crisis that Hamilton introduced his first report on the public credit. His plan was to have the National Government assume the responsibility for all public debts. These public debts, foreign, national, and State contracted in the war, amounted to about

GREAT AMERICAN FINANCIERS

\$80,000,000. This whole debt was to be met by a system of taxation, the revenues of which were to come partly from a tariff on imports and partly from excise. Hamilton's second plan was for the establishing of a National Bank. It was this bank of which Daniel Webster spoke, when he said: "He (Hamilton) smote the rock of national resources, and abundant streams of revenues gushed forth; he touched the corpse of public credit, and it sprang to its feet."

Hamilton was born on the little island of Nevis in the West Indies and was of dubious parentage. When a lad of thirteen, while employed in a mercantile house, he wrote such a graphic description of a hurricane that swept the island, that his friends decided to send him to America to be educated. He gradually emerged from obscurity, becoming an officer on Washington's staff, a distinguished lawyer, a partner in litigation of his future mortal enemy, Aaron Burr, one of the leading spirits in framing the Constitution and getting it adopted, culminating his career as Washington's Secretary of the Treasury—then to be slain by Burr in a duel. Great as was Hamilton's work, he was never honored as was his great rival, Thomas Jefferson, and there is as yet no statue on the vacant plaza in front of the Treasury building of the first and greatest Secretary of the Treasury.

The third great financial problem in this country came with the Civil War. Before that date the word "billion" was never heard even in Wall Street. A billion dollars had been an unthinkable sum of money for even the Government to borrow or to owe, but with the war the Government had to borrow over \$2,000,000,000 to restore the Union. As Washington had found in Hamilton the man to construct the financial foundation of the Government, so Lincoln was to find in Salmon P. Chase (1808–1873) the man to construct and operate the financial machinery to carry on the Civil War. When Chase came into the Treasury Department, a gigantic task lay before him. Public credit was at a low ebb. Not only had the Southern States, with their sources of governmental revenue, withdrawn from the Union, but there was a powerful financial party in the North which denied the Government the right to coerce the South.

Congress had been so disorganized by factional fights that it had been impossible to enact the requisite financial legislation. But Chase, under the circumstances, had a very clear conception of what to do and how to do it. He knew how to make the public understand financial questions. He launched his system of National Banks designed to supersede the banks organized under State laws and then remove the dependence of the Government upon such banks. The circulating notes of these National Banks, secured both by private capital and Government bonds,

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furnished a sound and uniform currency. As soon as he succeeded in passing his scheme through Congress, the Government was in a position to

obtain all the money that it needed.

The nation then needed only one or more great bankers to promote and exploit its borrowing capacity to the full extent of the war's demands. That banker was found in the person of Jay Cooke, of the firm of Jay Cooke & Co., Philadelphia. Cooke had made a great reputation and much money in financing railroads, from 1858 to 1861, such as the Missouri Pacific and other Western roads. He had a control of the money market almost as complete as J. Pierpont Morgan had forty-five years later. Cooke was born at Sandusky, Ohio, and he and the secretary were old friends. He was now made the principal financial agent of the Government, negotiating three loans of \$970,000,000,\$200,000,000 and \$830,000,000, in all \$2,000,000,000, or the bulk of the money borrowed to finance the war. He was also a great financial power after the war in the building of the continental railways. It was the failure of his house, in 1873, due to too heavy investment in Northern Pacific Railway securities, that caused a financial panic.

Among the potent financial figures in America during the Nineteenth Century were many vigorous men. There was Stephen Gerard, America's first great merchant prince, in Philadelphia, in the first half of the Nineteenth Century. There was John Jacob Astor, whose investment of his \$20,000,000 from the fur trade in New York real estate, had an important economic effect—through it more than sixty per cent. of the people became renters and that condition has increased with the years. Astor's great wealth did much to develop New York. Then there is Cornelius Vanderbilt's \$75,000,000 to develop the coastwise trade and the railroads of New York. Vanderbilt was one of the great builders of the nation. At his death he owned more than twenty ocean-going steamers. The call of his ships at the Isthmus of Panama showed De Lesseps what a great trade-route a canal there would at once become. He was not only a pioneer railroad builder but one of the very first to begin the consolidation of railroad lines which had grown to such extent and power that forty years later the Government found it expedient to step in and dissolve them. Probably no two men ever had a clearer vision of what New York was destined to become than the first Astor and the first Vanderbilt. Certainly no two men did more to determine that destiny.

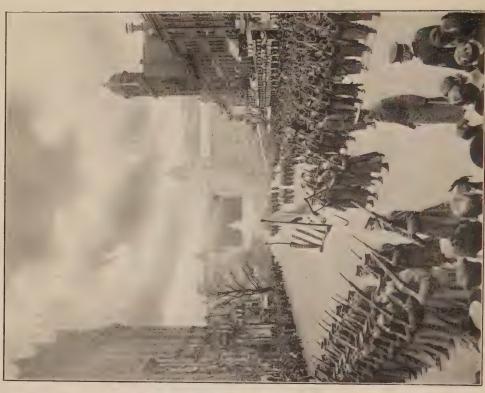
Jay Gould—a master of organization—became one of the leading figures in the financial world in the first decade after the war, when the country began its great railroad development. In those days, Wall Street



OUR COUNTRY—AND ITS DEFENDERS—Gallant seamen upon whom we depend for the safety of our national existence -The United States expends more than \$40,000,000 a year to provide for the welfare and comfort of the officers and enlisted men.



BATTLESHIPS OF THE AMERICAN NAVY—These ships are maintained wholly for the purpose of protecting our country against injustice or invasion—The American Navy now ranks third as a sea power—It has the longest coast line of any nation to defend.





SOLDIERS OF THE UNITED STATES ARMY. The law provides that the total enlisted strength on a peace basis shall not exceed 100,000 men. The actual service consists of four years. SALLORS OF THE UNITED STATES NAVY. The United States Navy on a peace footing consists of about 64,000 men and 400 vessels—The term of enlistment is four years.

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was a battle ground of men. Gould manipulated the stock market with the hand of a wizard. He had only to whisper or to nod his head to precipitate a bear market. He secured control of the Erie Railroad in 1868, and soon possessed a controlling interest in the Union Pacific, the Missouri Pacific, the Wabash, the Texas Pacific, the St. Louis and Northern, and the St. Louis and San Francisco. The control of these great systems enabled him to consolidate all the competing telegraph-lines into the Western Union in 1881.

Russell Sage—a man of remarkable financial insight—was Jay Gould's partner in many of his railroad properties and in the Western Union Telegraph Company. Sage's great rôle in finance was that of money lender. He always had at his disposal more cash for other men's enterprises and dreams than any other financier in the country. Sage possessed much wisdom in advising borrowers how to invest the money that he loaned them. In this way, his service to the railroad development of the country was invaluable. Perhaps no man ever knew as much about Wall Street and the market as did Sage.

The names of Harriman, Morgan, and Hill are intimately associated with the financing of the development of the country. Harriman began as stock broker and devoted himself to the study of railroading. When the Union Pacific was bankrupt, he prevailed upon Kuehn and Loeb to allow him to reorganize it with their help. He merged this road with the Chicago and Northwestern. Under Harriman's management, the Union Pacific became prosperous; credit was obtained to acquire the Oregon Short Line and the Oregon Railways and Navigation Company. The controlling interest in the Southern Pacific was turned over to the Oregon Short Line. This gave Harriman a central direct line to the Pacific. He waged many memorable financial fights for the control of properties. After the panic of 1907, Harriman helped to develop the Erie Railroad, turned the Central of Georgia over to the Illinois Central, and became a director of the New York Central. He also established close traffic connections between the Union Pacific and Kansas City Southern. A week before his death, he had made public plans for new railroad construction and improvements involving an expenditure of over \$300,000,000. He was in control of the Pacific Mail Steamship Company, the Portland and Asiatic Steamship Company, and the Wells Fargo Express.

A great movement for the consolidation of transportation systems, industries, public utilities, etc., set in about 1898. There appeared as the master-mind of this group of financiers—J. Pierpont Morgan. His career began early in the Civil War, and by 1902 he had attained in the finan-

cial world a power unequalled at any time by any man of affairs. There is no positive record of the properties he held but it has been estimated that he was "identified with" at least sixty railroads. His financial control extended over ten billion dollars. The achievement of Morgan's life was the organization of the United States Steel Corporation.

Morgan was a powerful influence in our national affairs. During the panic of 1907, it was Morgan who prevented the rate of interest from reaching exaggerated figures by depositing very large sums with the various banks that were most seriously pressed for cash. During this panic the Steel Trust bought from the Trust Company of America all its stock of the Tennessee Coal and Iron Company as collateral for loans, and thus

eliminated its only competitor in this country.

The last of this generation of great financiers is James J. Hill—the master-builder of the Northwest. He was born in Guelph, Canada, 1838, went to Minnesota in 1856. His fortune began when he and a group of other promoters bought the property of the bankrupt Saint Paul and Pacific Railroad Company in 1878. Hill paid \$6,780,000 for all the property which had been mortgaged for over \$28,000,000. The sale was not made for cash, but Hill was allowed to turn in as payment receiver's debentures and bonds. Hill secured more franchises, built extensions, and organized the Great Northern Railway. Then by forcing the application of the 1857 land grant act, he secured valuable land in Dakota. He owned immense ore desposits in Minnesota and leased them to the Steel Corporation on a royalty basis for 25 years, the payments amounting to tens of millions of dollars.

There are many other notable names that should be added to this list of master-builders, such as Rockefeller and his organization of the oil fields; Spreckles, who opened the market for Hawaiian sugar to the United States; Havemeyer, who organized the sugar industries; Arbuckle, who organized the coffee markets; Hearst, who developed the gold and silver mines of the West; Plant, who developed Florida and Cuba to commerce—and a list of thousands of other men of affairs whose financial genius forged new roads for progress on the American continent. It is not possible here to make economic deductions into the effect of the genius of these men on American civilization, but it is sufficient to state that finance is the power behind progress. It develops many economic problems that require constant readjustment to restrain the power of finance from becoming despotic; it has its dangers and its incalculable benefits to civilization, but under control it is the genius that has not only developed this nation, but is reconstructing the world.

GREAT AMERICAN AUTHORS

"Books are the legacies that a great genius leaves to mankind, which are delivered down from generation to generation, as presents to the posterity of those who are yet unborn."—Addison.

OOKS—not nations—are the world's greatest democracies. The republic of letters knows neither monarch nor serf. The poor man becomes rich in his knowledge of books—the rich man becomes poor in his lack of knowledge of books—the whole world meets on common ground in the printed pages of literature. "All that mankind has done, thought, fained or been," says Carlyle, "is lying as in magic preservation in the pages of books. They are the chosen possession of men."

"God be thanked for books," said Channing in his essay on "self-culture." "Books are the true levelers. They give to all, who will faithfully use them, the society, the spiritual presence of the best and noblest of our race. No matter how poor I am, no matter though the prosperous of my own time will not enter my obscure dwelling. If the sacred writers will enter and take up their abode under my roof, if Milton will cross my threshold to sing to me of Paradise, and Shakespeare, to open to me the worlds of imagination and the workings of the human heart, and Franklin to enrich me with his practical wisdom, I shall not pine for want of intellectual companionship, and I may become a cultivated man though excluded from what is called the best society, in the place where I live. . . . It is chiefly through books that we enjoy intercourse with superior minds, and these invaluable means of communication are within reach of all. In the best books, great men talk to us, give us their most precious thoughts, and pour their souls into ours."

Here in America we have all the material for great literature. The drama of human life moves rapidly; human emotions are unloosed on a vast stage of action; the ambitions and loves of men, the tragedies and commedies of existence are all enacted in everyday American life. The nervous energy is here; the physical power, the spiritual force. We have not yet passed through our "Elizabethan Age" but we have already given to the world some of its noblest thoughts. For some 200 years, from 1607 to 1800, America followed the English writing in prose or poetry. It was in theology that she first demonstrated strength and power. And then sud-

denly, within a few years, she gave to the world several men of genius, genuinely American, whose every word bore the unmistakable stamp of the New World.

American literature, as distinguished from English literature, begins with Irving's books. As an essayist, he was still a follower of the English tradition. But in his legends of the Hudson and his Knickerbocker history we find that which is not only rich of the soil but which was at the time absolutely new in literature. The Knickerbocker is the source of American humor. There Irving gave us imaginary histories based upon the most careful and inimitable satire of real heroic achievements. His Legends were even more original. Not only were the characters and the romance purely American but they had a flavor belonging solely to the life of this continent. Irving earned fame not only in his own country but beyond the Then came Fenimore Cooper, his junior by about six years. Cooper not only used American material, but material which had never been used before by any writer. In his characteristic studies of the aborigines and their sturdy enemies, the first pioneers, the American wilderness, lakes, mountains, prairies, the vast savagery of the new continent began to live in literature as essential parts of the new creation. There is about his books such a genuine note of virgin life that they carry conviction wherever they happen to be read, be it in London or Paris-in Persia or in any part of the world where men appreciate primitive passions.

The first world-renowned master, however, is Edgar Allan Poe (1809-1849), the Ishmael of American letters. It has been said that he was not typical of America, but his fate at least was typical of the fate of any daring poet in his days. Nowhere else would he have evolved such a deep psychology of life by the very loneliness to which his strange genius doomed him. He had the sensitiveness of genius, the pride of a gentleman, and yet he was compelled to accept charity from a world in which there was no place for a poet unless he could be a teacher like Longfellow or could conduct a newspaper as did Bryant. Wandering from town to town, misunderstood of all, battling with starvation, watching the woman whom he idolized die without food and clothing, he might have been in the Old World one more grotesque figure added to the gallery of Bohemians. In the rough, indifferent New World he was a pathetic and tragic figure. In one respect he was thoroughly, typically American. America's most significant contribution to the world's literature is the short story. Whatever honor is due to us on that account should be offered to Poe, who much more than Irving carried that literary genre to the highest degree of perfection.

America's household poet is Henry Wadsworth Longfellow (1807–1882), the most widely known and quoted of American authors. While



GIANT FORESTS OF CALIFORNIA These gigantic trees along the Yosemite Valley are the largest to be found on the earth—This is one of the natural curiosities of America, with its canyon, cascades and famous trees,



GATEWAY TO THE GARDEN OF THE GODS—This region in Colorado covers about 500 acres—it is a "fairyland" of strangely sculptured rocks of brilliant hues.—Their grotesque magnificence assume forms of giant figures and cathedral spires—Huge gateway is formed of red rock masses 300 feet in height.

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he was still living the school children began to celebrate his birthday and there are few schools in this country where the 27th of February passes without some commemoration of the poet's services to letters. Longfellow reflects not the froth and surface agitation of life, but its serene flow and its soulful undercurrents. His first book appeared in 1830 at the beginning of the turmoil about slavery; in his last volume in 1882 the wounds of the conflict were healed. In the midst of our greatest political strife, Longfellow sang the legends that united North and South in the pride of a common country. "Evangeline," "The Courtship of Miles Standish," "Hiawatha," are full of understanding and sympathy for the people of all races and all times. Longfellow avoided the cold impassibility of Bryant and the morbidity of Poe. In spite of his scholarly interests and associates, of his long training as a teacher of literature, he took his subjects near at hand, indifferent to the disparaging criticism that he was the "poet of the commonplace." By showing the poetic side of American history, he has opened a mine of literary material out of which other poets were to bring

Perhaps the most striking figure America has given to the world of letters is Ralph Waldo Emerson (1803-1882). The difficulty of characterizing him in a short sketch is suggested by the titles which his admirers gave him. To some he was the western Buddha, to others the Yankee Shelley, to others the epitome of Puritan idealism and independence. George Eliot spoke of him as "the first man I have ever seen." All his life long, he was a preacher of high ideals. The nobility of his life gave force to every word which he uttered. As lecturer, poet and essayist, his greatest service was to stimulate thought without ever arousing his readers' or his hearers' antagonism. A clergyman, he disdained theology and church history; a naturalist, he never studied science; a writer on art and literature in everything he relied on intuition. What interested him most in life was individual effort and accomplishment. His prestige was due to his manhood—the fact that he was such a splendid individual, whose absolute independence might have led him into dangerous paths had he not been always saved from error by his wonderful mental and moral integrity.

Another powerful individualist, whose genius Emerson was the first to recognize, was Walt Whitman (1819–1892). Printer, teacher, carpenter, idler, reporter, editor, Whitman led a picturesque life. In his 36th year, he published his "Leaves of Grass." This book has been acclaimed by all the foreign critics as the highest form of original literary art ever written in the New World—a poet typical of the American continent. American critics, on the other hand, are divided in their opinion of that work. They are astounded by his brutality, by his vigor, which cares little for what is

generally called delicacy of expression. It is contended by his devotees that Whitman is America's greatest poet, the true bard of Democracy. They point out that, in contrast to all the other poets of this land, he alone has created entirely his own rhythm, his own meter, and his own vocabulary; that he owes nothing to Old World masters and thinkers; that his subject always was the power, the greatness, the immensity of his native land; that he has felt and expressed more clearly than any other American writer the wonderful qualities of the new race which was being created in the great "Melting Pot" of the world; that, after the stifling influence of Puritanism, he had rendered a signal service in singing in the healthy physical life of a new continent of nature, unembellished by poetical adornment.

A man apart in American literature, a solitary genius whose methods were so exclusively his own that it is impossible to compare him with any other writer, is Nathaniel Hawthorne (1804–1864). His style, pretentious but artistic, was always in harmony with his subject. He wrote largely of the Puritans from whom he was descended and whose moral make-up he reflected in a large measure. His "Scarlet Letter" was the first great American novel. This, and his other books, reflected his aloofness from his contemporaries, his brooding contemplation of the past. He had no literary friendship; he reveals himself very little in his writings. More at home with historical figures than with the living people who surrounded him, he gave to literature a type which no one had attempted to sketch—the Puritan. His creation of that type was very romantic; he emphasized the Puritan's idealism, his superb faith, his constant brooding over the question of sin and of expiation. His neglect of contemporary life, his indifference to the modern energy make him the classicist among American authors.

America's great humorist, and one of the most pronounced geniuses of his times, was Mark Twain (1835–1910). He was at heart a reformer and a hater of shams. In ridiculing real or fancied wrongs, he displays an amazing dramatic vigor. His wandering life which took him everywhere from miners' shacks to millionaires' drawing-rooms gave him a very keen insight into human psychology. It is not altogether an exaggeration when he tells us that he met on the Mississippi the duplicate of every important character in history, biography, and fiction. His "Life on the Mississippi" will probably remain his greatest claim to glory.

There were Prescott (1796–1859), Bancroft, Motley and Parkman, and of these we chose Prescott. He had not the monumental form of Bancroft, the fire of Motley, nor the intimate touch of Parkman, and he was without the humor of Irving. But Prescott is superior to all the former in poise of judgment and distinction. His "Conquest of Mexico" is a historical work, whose literary excellence is without an equal. Prescott

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wrote history with a historical exactness and literary artistry that even Greene, and Gibbons, and Froude, and Mommsen do not maintain. Prescott, like Hawthorne because of his style, has won for himself an immortal place in English speech. His books have been translated into all the great European languages, his style retains its charm. But only the English reader can appreciate the beauty and fitness of the diction, Prescott is elegant without being florid, and yet musical and full of vigor. The periods and the characters selected by Prescott abound with the romantic; and whether we review the fortunes of the patrons (Isabella and Ferdinand) of Columbus, or follow the banners of Spain to the halls of Montezuma or to the home of the Incas, we cannot move a step without treading on enchanting ground. Yet the author does not strain after picturesque effects like Lamartine. And he wrote his three great histories: "Ferdinand and Isabella," "Philip II," and "The Conquest of Mexico" under the great physical infirmity of partial and at times total blindness, but there was never a moment that there did not emanate from him a gavety of spirit. It was this affliction that diverted him from law to literature and gave to the world one of its greatest literary historians.

William Cullen Bryant (1704-1878) was the father of American poetry, that is he was the first man in the Western Hemisphere to write verse that compared favorably with much of the verse of Wordsworth, Keats, Coleridge and Shelley, though in stature it is not claimed that he measured up to any one of these. He wrote "Thanatopsis" his greatest poem at seventeen. His father, without the son's knowledge, sent this poem with others to Willard Phillips, the editor of the North American Review, then published in Boston. Phillips was so amazed at the great merit of the poem (and not knowing who wrote it) that he hurried to Cambridge to show it to his associate editors, Richard H. Dana and Edward T. Channing. When Dana heard the poem read, he smilingly said: "Oh, Phillips, you have been imposed upon. No man on this side of the Atlantic is capable of writing such verse." His remark at the time was most natural for America had produced only three one-poem poets and no more, John Howard Payne, the author of "Home, Sweet Home," Francis Scott Key with his "Star-Spangled Banner" and Joseph Hopkinson of "Hail, Columbia" fame and these poems would have been long since forgotten but for the music written to them. In Bryant, America entered the Hall of Parnasus and took its seat with the gods. But to the present generation of Americans, Bryant is an Ossian ghost almost as remote as Homer. He never acquired the popularity of Longfellow, though when his "Thanatopsis" and "Water-fowl" appeared they were read with eagerness and delight by almost every man, woman and child in New England. "Thanatopsis" is

Puritan New England to the soul, and that is why it is not to-day read in America, for the last thing Americans now think of is death, that is death as Bryant described it in his sonorous verse. Bryant's mental defect as a poet was his lack of emotion. He is too self-controlled for a race of men who live in laughter and tears.

Bret Harte (1830-1902) would still have been a genius and a great writer if gold had never been discovered in California, but the man and the opportunity met on the Pacific Coast on the heels of the Forty-Niners. Harte did not spin out his characters from his own brain like the great novelists. Like Kipling in his novel writing he failed, but no writer has ever seen with a clearer vision the workings of character and of human nature in the men and women about him under unique conditions. was never before and there will probably never again be such a chapter in human history as that narrative of the gold fever in California. Had there not been a historian of the human heart like Harte on the spot, the world of letters would indeed be poorer now. The average man knows not what his most intimate friend would do under any and all circumstances, but Bret Harte always knew what all whom he met would do and his gift to describe each and every character's actions was always both full and perennial. Harte had the sentiment of Dickens, though it was not so morbidly developed, and the satire of Thackeray, though it was not of such rapier-like edge. He scorned hypocrisy, and especially the hypocrisy of Puritanism, with an intensity that few artists have ever been able to put into words. But it is for Harte's sentiment, his pathos and humor, that the world will read him and ever love him. Ages ago an eastern sage said he would like to write a book that every one should conceive that he might have written himself, and yet so good that no one else could have written the like. Bret Harte is said to have fulfilled this ideal. There is a choice of words, a balance of sentences and a rhythm of paragraph that very nearly approach perfection in the literary art. In conciseness, in artistic restraint, he is declared the equal of Turgenieff, Hawthorne and Newman. Because Bret Harte was so essentially an artist in every fibre of his being, he left California when society had settled down there and became commonplace. The whole country was growing alike and he could find no place that suited him but London. His best story, he said, is "Tennessee's Partner." "The Idyl of Red Gulch" and "The Rose of Tuolumne" are two of the finest pieces of work of the kind in all imaginative literature. And who, that has read him, will ever forget "Colonel Starbottle"?

Oliver Wendell Holmes (1809–1894) was one of the purest American types of temperament and mind. To recall him brings back the most gifted group of men of letters that have ever appeared in this country. Of this



HISTORIC PALISADES ALONG THE HUDSON—These rocky cliffs, broken and fantastic in appearance, are considered the most picturesque in the world—The walls of rock rise about 500 feet in height and extend about fifteen miles along western bank of river.



LANDMARKS OF AMERICAN LEGENDS—The Hudson River occupies an important place in American literature and art—Washington Irving immortalized its charming villages—Poets have lived along its shores—Artists receive inspiration from the magnificent scenery.



GREAT AMERICAN AUTHORS—This rare engraving by Chappell is entitled "The Literary Party at the Ho of Washington Irving"—Irving is seated with kerchief in hand—Facing him, with extended hand, is J. Fenimore Cooper. Among the others are many noted authors.



AMERICA'S CONTRIBUTORS TO WORLD'S LETTERS—Standing at extreme left is Hawthorne—Seated in front of him is Longfellow—Standing in centre of group is Prescott. Seated in front of him is Bryant. Under the bust of Shakespeare is Emerson.



LARGEST RIVER STEAMSHIPS IN THE WORLD—The magnificent steamboats of the Hudson River Day Line accommodate 6,000 passengers on a single voyage—Travelers from all parts of the earth make this historic journey—They pass through a beautiful country.



ALONG THE HIGHLANDS OF THE HUDSON—Here we pass the stately military structures crowning the hills at West Point—The river is navigable for 117 miles from the ocean --Its whole length is about 300 miles, nearly every foot of which is historic.

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group Dr. Holmes remains the freshest and the most perennial. He is still with us in his boundless humanity and sympathy. A learned man he was, but he could write pathos with humor in admirable combination and controlled by perfect taste and kindliness. He could poke fun at his "Unmarried Aunt" but no one loves her the less. His humor was never wit and was always without sting. It was his "Autocrat of the Breakfast Table" that made the Atlantic Monthly a great magazine from the beginning.

"The Bigelow Papers" made for James Russell Lowell (1819–1891) a name sui generis to the world of letters. As Emerson stood for American thought so has Lowell become our representative man of letters. He attained that position not so much as an indomitable writer nor chiefly as a poet but from being the best equipped all-around writer and man of letters this country has ever produced. His acquirements, his versatile writings, the conditions of his life, the mold of the man, and the spirit of his whole work have given him a peculiar distinction. He stands out in our history not only as a man of letters, but as an exemplar of culture, a citizen of the world, and a better American, because he was also a cosmopolitan. And the beauty and excellence of the man were that in him was the true America. In his poetry he wrought to unite the human and the divine and give

a word of hope to men.

John Greenleaf Whittier (1807–1802) was pre-eminently the poet of New England. There has indeed been no New England poet for whom New England itself has not largely furnished material and inspiration. But Whittier's poetry in the essence attempted an appeal as wide as the nation and the race. In a group of distinguished critics shortly after the close of the Civil War, Horace Greeley was asked who was the best American poet and he at once replied with the name of Whittier and for once all were in accord. It was discovered that Whittier at that time most nearly satisfied the poetic needs of the typical, vigorous American. The English who studied him at that time to get at the soul of America, pronounced him the most "national and most characteristic" of all our writers in his extraordinary fluency, narrow experience and wide sympathy, which meant to the average Englishman, loquacity, provincialism, and generosity of heart. Whittier was great for his time and he served well the purpose for which he sang. If his song was never that of the people at large, it sought to remove that which separated the country into sections. Therefore, with his pen, he helped make America what it now is-a nation, in will, feeling and emotion. He played a great part in our Civil Reformation. He surpassed Longfellow in force and in truth for he was no imitator of the Old World. Whittier belongs with Greeley and Harriet Beecher Stowe in his work for Abolition.

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An Englishman who packs his grip to this day, we are told, puts in it a copy of Artemus Ward's lectures. As popular as this first of American humorists was in America fifty years ago, he was more popular in England, and is still a prince of American humorists. In his own country his fame was somewhat obscured by the growing reputation of Mark Twain and other humorists. Artemus Ward's humor has spontaneity, warmth, color, richness, purity and sweetness. He made his first reputation as a humorist on the Cleveland Plain Dealer and for a few years, or from about 1863 to his death, he lectured in America and England, convulsing the sides of more people than any other speaker who had ever occupied the lecture platform.

The realm of Southern folklore gave to us Joel Chandler Harris (1848–1898). His Uncle Remus' stories are more than a collection of folk stories, but rather a revelation of the soul of the humbler classes of American negroes. In the gay adventures of Br'er Rabbit, who typifies the triumph of weakness and mischief over strength, we see a reflection of a race that could laugh and be happy in a condition of slavery. Uncle Remus is a real artistic creation, a character that will live. Human,

lovable, he has endeared himself to millions.

The "Battle Hymn of the Republic" and "Uncle Tom's Cabin" entitle Mrs. Julia Ward Howe and Mrs. Harriet Beecher Stowe respectively to honored places among great American authors. If Thomas Nelson Page had never written anything but "Mars Chan," he would have well earned for himself the membership to such company. James Whitcomb Riley, the Hoosier poet, belongs here too. There was Timrod and Lanier of the South in the past. They too sang for the world.

Modern American literature is rich in great names but almost every one of those great names is that of a novelist. We have many modern poets, but this Twentieth Century does not seem to inspire either the perfection of Longfellow or the strength of Walt Whitman. The work of our dramatists also seems to present contemporary themes without intent of preserving them in book form. Our fiction writers, however, exhibit the qualities which have always been praised in the work of the great European novelists.

The movement in fiction began with Henry James and William Dean Howells, two extremes. Henry James, who spent most of his life abroad and became a British subject, likes to depict some American whose crudities or peculiarities are thrown into strong relief against the background of a more formal European life. He analyzes the most tenuous psychological motives. Howell's psychology on the contrary gives us for the first time a faithful picture of the American in his natural environment, a picture

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which is neither idealized by a patriotic bias nor distorted by snobbery. It is especially as a painter of American society "in the making" that Howell's will endure in this country and abroad.

Most notable among the more modern writers of virile American life are Jack London, Edith Wharton, Frank Norris, Robert Herrick, Winston Churchill. London sounded a purely American and extremely original and powerful note in his first book, the best known of which is perhaps the "Call of the Wild," depicting the lure and mystery of the Northland and the rough energetic life of that region. Edith Wharton wrote the epic of New England in her sober, gloomy masterpiece, "Ethan Frome," Norris in "The Octopus" tells a powerful tale of California at the time of the great railroad expansion. It is also one of the first economic reform novels, exposing the wrong from gigantic industrial enterprises. Winston Churchill is perhaps the most truly American novelist of the times, depicting as he does the sturdy American characters in the various epochs of our national life with a firm hand and keen understanding of the underlying psychology of American institutions, especially in matters of church and state.

Literature has reached a very democratic stage in America. More persons are engaged in the profession of writing, and more books and stories are being published in America to-day than in any other nation in the world, or than at any other time in the world's history. But, as Voltaire said, "It is with books as with men; a very small number play a great part; the rest are confounded with the multitude."

The love of beauty is inherent in the human race; it waits only the opportunity for expression. Our hands and minds have been fully occupied in the building of trans-continental railroads: in each of these there is a great poem; every stroke of the axe has been an immortal elegy. Greater poets than ever wrote a sonnet in the Elizabethan Age have been blasting the mountains to make way for the whirring wheels of commerce. The large purring, puffing locomotive is an ode to triumph. The swiftly moving electric train is a lyric to power. The great modern towers of Babel are idylls to valor. The mediums of expression may differ, but the instinctive ability of man to create from his imagination always is with us.

The day will come when the Americans shall rest from their labors and give full expression to their inherent love for the finer arts through the more leisurely and conventional mediums of genius—then we shall picture and paint, and mold and relate forms of rarer beauty than the world has

yet seen.

"The Fine Arts are those which have primarily to do with the imagination and taste, and are applied to the production of what is beautiful."

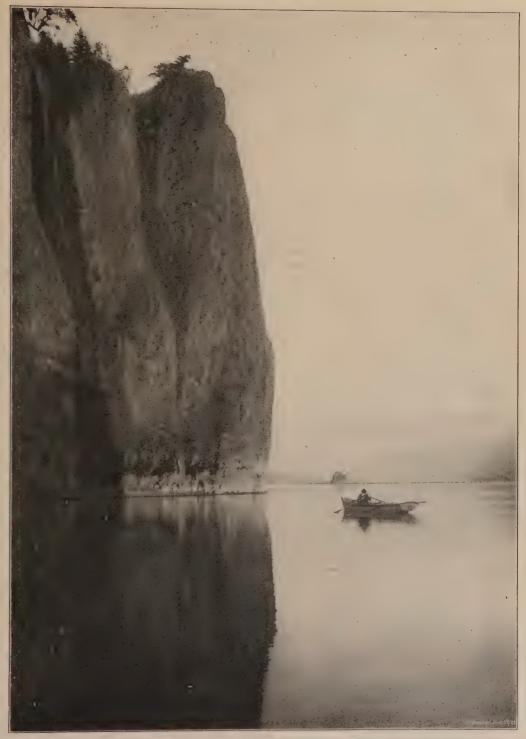
—Webster.

RT is the effort of man to express the ideas which nature suggests to him of a power above nature, whether that power be within the recesses of his own being, or in the Great First Cause of which nature, like himself, is but the effect." This is the definition given by Lytton in one of his essays. It is Irving who adapts this to the American nationality when he adds: "In America, literature and the elegant arts must grow up side by side with the coarser plants of daily necessity."

It is frequently charged by Europeans that we Americans are wholly a material people; that we are producers of wealth, but not producers of art. There could be no falser falsehood. "Art," Emerson said, "is nature with man's will applied thereto"—and here in America we are laying the foundation for the truest art that the world has ever known. It is quite true that during the first epochs in our national life we have been directing our larger energies to lay the material foundation for the great structure that we are erecting—a structure of society that gives every indication of contributing more liberally to the Fine Arts than any system of society under which mankind has ever worked.

The love of beauty is inherent in the human race—and American nationality is but a composite of all the races of the earth, an embodiment of their hopes and ambitions. The foundation is laid solidly, and upon this we are to erect the edifice of American Art. Let us survey our materials. The first centuries in the history of America were devoted to securing for the settlers the prime necessities of life; all the energies of the time were spent in practical pursuits, and consequently the arts were long neglected by the sturdy pioneers. Then came the colonial period and the Revolution, during which British influences prevailed in the New World, with an inclination to follow the Italians.

Great events always produce the man—latent genius is inspired by social convulsions. Thus, from the American Revolution and the first struggles of our national existence there arose the first American school of art, which in its originality and skill has left its permanent impression



LARGEST RIVERS IN WESTERN AMERICA—Along the Columbia or Oregon River; with its branches it has 2,132 miles of navigable waters—It drains an area larger than the German Empire in Europe—The cliff is Cape Horn.





SURVIVAL OF PRIMEVAL FLOOD—This rock stands as a sentinel, over 6, looking the Grand Canyon of Arizona—It is visited by thousands of mountain climbers.

on the art world. There came forth a group of men with brilliant imaginations and the artisan's skill—West, Copley, Trumbull, Stuart, Allston, the Peales, and Sully.

We can linger but a few moments over these painters and their easels. The first of the American painters was Benjamin West, the Pennsylvanian (1738–1820). After some instruction he painted "The Death of Socrates" for a gunsmith, and established himself as a portrait painter in Philadelphia at five guineas per portrait. Soon he visited Rome and painted "Cimon and Iphigenia" and "Angelica and Medora." He was elected a member of the Academies of Florence, Bologna, and Parma, and finally settled in England, where he painted a historical canvas of "Agrippina Landing with the Ashes of Germanicus," for the Archbishop of York, who introduced him to George III. The king became his steadfast patron and for many years gave him commissions. He was appointed in 1772 historical painter to the king and later surveyor of the royal pictures.

Benjamin West was one of four selected to draw up a plan of the Royal Academy and was one of its original members. There he exhibited his painting, "The Death of General Wolfe," departing from the custom of the artists of the day of giving the characters Greek or Roman costumes. It was then that Reynolds, who had endeavored to dissuade him, said, "I retract my objections. I foresee that this picture will not only become one of the most popular, but will occasion a revolution in art." West painted a series of historical works for Windsor Castle; also a series on the progress of revealed religion-antediluvian, patriarchal, Mosaic, and propheticfor the chapel. This American, on the death of Reynolds in 1792, was unanimously elected president of the Royal Academy. He continued to devote his genius to religious and historical subjects on very large canvases, and among them we find "Christ Healing the Sick" (in the National Gallery), the "Crucifixion," the "Ascension," and "Death on the Pale Horse" (Pennsylvania Academy). The "Battle of La Hogue" is considered by critics the best of his historical paintings. West left about four hundred paintings to his credit.

America was beginning to establish itself in the world of art when John Singleton Copley (1737–1815), a Bostonian, brought glory to his beloved country. Copley sent anonymously to Benjamin West in England a portrait called "The Boy and the Flying Squirrel." This was exhibited and gained recognition by the best English artists of the time. Copley left his native land and sailed for England, visiting Italy and settling in London, where he developed rapidly as a portrait painter. His genius was given full recognition when he was elected a member of the

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Royal Academy. His most celebrated paintings are portraits of the English royal family: the "Death of Lord Chatham," now in the London National Gallery; "Siege and Relief of Gibraltar," in the council chamber of the Guildhall; "Major Pierson's Death on the Isle of Jersey"; "Surrender of Admiral De Winter to Lord Duncan"; "Charles I. Demanding the Five Impeached Members in the House of Commons"; "The Red Cross Knight"; "Mrs. Derby as St. Cecilia." Copley left fiftyfour paintings, which he presented to Yale College in consideration of an annuity of \$1,000.

The dramatic events of the American Revolution aroused the genius of a Connecticut youth—John Trumbull (1756–1843). He was graduated at Harvard three years before the outbreak of the war and served in the Revolution. He, too, went to England to study under West, but was imprisoned on a charge of treason and forced to leave the country. Some years later, after the angers of war had subsided, he returned to England and became the pupil of West. Trumbull's first historical picture was the earliest direct contribution to American national art, when he painted the "Battle of Bunker Hill." This was followed by the "Death of Montgomery Before Quebec" and "Sortie of the Garrison from Gibraltar." He was appointed by Congress to paint four pictures for the rotunda of the Capitol at Washington, "The Declaration of Independence," the "Surrender of Burgoyne," the "Surrender of Cornwallis," and

the "Resignation of Washington at Annapolis."

The fourth to join this illustrious group of American painters was Gilbert Stuart, a Rhode Islander (1755-1828). He was a born portrait painter and was busy at his easel when thirteen years old. West recognized his talent, took him into his home in England, and gave him instruction in art. The young American obtained distinction in London and painted portraits of George III, George IV, while Prince of Wales, Mrs. Siddons, Sir Joshua Reynolds, and Benjamin West, after which he went to Paris, where he had Louis XVI as a royal subject. His great ambition was to practise his art in America, and he returned and opened a studio first in New York and subsequently in Philadelphia. Here he painted Washington during his term as first President of the United States. This was the first of the famous portraits of the "Father of His Country" by Stuart. He also painted a full-length portrait of Washington for the Marquis of Lansdowne. Nearly forty copies from the originals of various sittings made by Stuart are now in existence. He is represented by six paintings in the Metropolitan Museum of Art: "Washington" (two portraits), "John Jay," "Captain Henry Rice," "Mr. David Sears," "Commodore Isaac Hull." Stuart painted the first

five Presidents of the United States. He ranks with the best portrait painters of the English-American School.

South Carolina now contributed to this galaxy of masters an American who has been called the "American Titian"—Washington Allston (1779-1843). He studied art in Europe and, after a residence in England, opened a studio in Boston. His painting "The Dead Man Revived" was awarded a prize of 200 guineas. His canvases include "The Prophet Jeremiah"; "Spanish Girl"; "Spalatro's Vision of the Bloody Hand"; "Belshazzar's Feast," and portraits of Benjamin West, Coleridge, and himself.

Then there are the Peales-father and son-an old Maryland fam-The sire, bearing the name of Charles Wilson Peale (1741-1827) turned from saddlery to portrait painting. He became a pupil of Copley at Boston and of West in London. Portraiture, mezzotinto engraving, modeling in wax, and casting and molding in plaster, received his attention. He opened a studio in Philadelphia in the year of the Declaration of Independence and was elected to the Pennsylvania legislature three years later. During Jefferson's administration, he opened Peale's Museum, including collections of portraits and objects of natural history. Peale was a collector of natural curiosities and a lecturer on natural history. It is said that "he sawed the ivory on which his miniatures were painted, molded the glass that covered them, and made the shagreen cases that enclosed them." For many years he was the only portrait painter of importance in the colonies. Washington granted him fourteen sittings in all poses from colonel of Virginia militia to "father of his country." Peale also painted Robert Morris, financier of the American Revolution, Hancock, Gates, Baron de Steuben, Comte de Rochambeau, Franklin, Nathaniel Greene, Jefferson, Hamilton, Monroe, Jackson, J. Q. Adams, Calhoun, and Clay—all notable figures in the early days of nation building.

American painting was rapidly earning its full recognition, when another Pennsylvanian appears—Rembrandt Peale (1778-1860), second son of C. W. Peale. He became one of West's pupils in London, and later went to Paris to paint portraits of celebrities for Peale's Museum at Philadelphia, to which city he returned. Two of his great exhibition paintings are "The Roman Daughter" and "The Court of Death." He painted Washington several times. The original of his portrait of 1823 was purchased by Congress for \$2,000. Chief Justice Marshall called it "more

Washington himself than any portrait I have ever seen."

It was now that an English-American entered this group of American painters—Thomas Sully (1783-1872). He was born in England but came to the United States with his parents, who were actors, and studied

painting in Charleston, South Carolina, and Richmond, Virginia, later removing to New York. He returned to London to complete his studies, and two years later came back and settled in Philadelphia. He stands out as one of the leading American painters of portraits, the best known of which are the full-length portraits of Dr. Benjamin Rush, Commodore Decatur, Thomas Jefferson, and Lafayette. His celebrated painting of "Washington Crossing the Delaware" is in the Boston Museum.

With the passing of these founders of American art we enter the middle period when native stylists began to appear—such as Thomas Cole, Kensett, Church, Bierstadt, Thomas Moran, Harding Inman, Huntington, Mount; Emanuel Leutze, Hicks, Fuller, and William Morris Hunt.

Art life in America had been an incessant struggle for recognition up to this point, and it only began to come into its own with the sudden growth in wealth and taste following the American Civil War in 1865 and the Centennial Exhibition of 1876. Then it entered upon the third period with Johnson, Vedder, and La Farge; Homer, Inness, Wyant, Martin, Chase, Cox, and Blashfield; Twachtman, Robinson, Harrison, and the modern masters—Whistler, Abbey, and Sargeant. Their works are so well known to the present generation that it is needless to enlarge upon them.

Here, after many travails, America at last produced a master who may be called the greatest innovator of his century-James A. McNeil Whistler (1834-1903). He was born in Lowell, Massachusetts, and at seventeen years of age was appointed to the West Point Military Academy, which he left after four years to become a draughtsman in the Coast and Geodetic Survey. It was in this work that he learned the first rudiments of his great art, but he soon left it to go to Europe. In Paris, he became a pupil in the Art Studio of C. G. Glere of The Ingres' School. Previous to the series generally styled the "French Set," Whistler is known to have etched three plates. The French Set depict street scenes, interiors and figures. Then going to London he etched the "Thames Set," treating of the river craft. The unfailing characteristics of all his etchings are precision and flexibility of line and remarkable picturesqueness in the rendering of shade and light. Their observations and their technical skill are alike noteworthy. All of Whistler's plates are highly prized by connoisseurs, even more than can be said for Rembrandt. Whistler is without doubt the most original genius of plastic art born in America, one of the world's finest etchers. He belongs to no particular school, and whatever he did was his own, barring the influence of the Japanese. His art is simple—the maximum of effort with the minimum of point. The portrait of his mother ranks with the world's greatest paintings. Whistler



GRANDEUR OF NIAGARA—"The most awe-inspiring spectacle in the world"—The waters plunge 165 feet into whirlpool rapids—The crest of the American Falls extends 1,060 feet; the Canadian Falls, 3,013 feet.



GLITTERING BEAUTY OF NIAGARA IN WINTER—This impressive sight demonstrates the power of nature—The ice king touches the mighty waterfalls and they are transformed into myriads of sparkling jewels under the light of the sun.

was personally a most eccentric man and delighted in making enemies. He died in London.

Among his contemporaries, Winslow Homer and John La Farge did very strong and original work. Homer's individuality of conception has never been surpassed, and La Farge's sense of color and line has made him America's greatest decorative painter. Edwin Abbey, whose paintings decorate the Boston Library, is another voluntary exile, who first had to seek recognition in England, but finally came into his own in America, as a master of mural painting.

Paris, Munich, London, and Rome have large colonies of Americanborn painters whose work, however, is more European than American. The Paris colony includes men like Bridgman, Dannat, McEwen, Walter Gay, and Sergeant Kendall. C. F. Ulrich makes Munich his home; Shan-

non is in London, and Coleman in Italy.

America has contributed to the art world portrait and genre painters like John W. Alexander and William Chase, men of cosmopolitan tastes with a leaning toward French methods. Our landscape painters have always had a distinctly American flavor. The strongest landscapist of our times, George Innes, is an innovator and an experimenter; further, he knows the solidity of nature. The mass and bulk of landscape are expressed marvelously by his brush. No one has visualized with more power the savage grandeur of the desolate New England shores. Among the men, who have taken landscape and figure as their subjects, there is a notable energy of treatment and a very gratifying sense of the things typically American-Tyron, Dearth, Crane, Murphy, Dabo, Horatio Walker, Weir, Twachtman. Gedney Bunce, drawing upon European memories for his inspiration, has painted Venetian marine scenes of charming quality. De Haas, Maynard, Snell, Butler, Chapman have selected their subjects nearer home and obtained very striking effects with views of the Atlantic and Pacific coasts. Thus we find that in America we have a national art which is building steadily upon the foundation that has been firmly laid.

The ancient masters of sculpture might also look with expectancy upon their pupils in the New World. Great memorial shafts, monuments, mausoleums, fountains, and heroic statues are rising in the public squares and parks in every town and city of the land—tributes to the valor of men or landmarks to great events in the building of the republic. While these do not as a whole typify great art, they are at least an expression of

the growing instinct of the people for the Fine Arts.

The history of American sculpture begins in 1820, when John Frazee made a bust of John Wells for Grace Church, New York. This was the

first marble portrait made by an American sculptor. Before John Frazee, during the Eighteenth Century, we hear of a Mrs. Patience Wright of New Jersey who "executed wax figures." Her wax likeness of Lord Chatham was considered good enough to be admitted to Westminster Abbey. There was also John Dixey, an Irishman, who came to America in 1789 and made the figures of "Justice" for the City Hall, New York, and the State House at Albany. An Italian, Guiseppe Cerrachi, came to this country in 1791 with a design for an elaborate monument to "Liberty." A public subscription was started to enable the artist to have his design carried out in stone; in spite of the fact that George Washington headed the list of subscribers, the necessary sums were not raised. Cerrachi, disappointed, left the country after having made a few interesting busts of Washington, Hamilton, Clinton, Paul Jones, and John Hay.

Sculpture struggled nobly to obtain a foothold in America. William Rush, of Philadelphia, a self-taught genius, carved in wood and modeled in clay and wax. His bust of Washington in the Pennsylvania Academy of Fine Arts and his wooden "Water Nymph," now reproduced in bronze, decorate Fairmount Park in Philadelphia. Horatio Greenough was charged with indecency for his marble group, the "Chanting Cherubs" and his statue of "Venus Victrix." It was only after a committee of clergymen had passed upon the "Greek Slave" that Hiram Powers was allowed to exhibit it in Cincinnati or to make replicas. Crawford, Browne, Story, Ball, Harriet Hosmer, and others, followed the classical principles of Canova and Thorvaldsen and adapted their master's work to the prudish taste of their times.

It is not until we greet Quincy Adam Ward that we finally meet a great American sculptor of the sturdy type. He took a bold stand, little affected by foreign influences. Ignoring entirely the so-called classical subjects, Ward derived his inspiration from national American types. He treated very successfully subjects like "The Indian," "The Freedman," "The Pilgrim," the "Private of the Seventh Regiment." His masterpiece

is the noble statue of Henry Ward Beecher, in Brooklyn.

Behold, the master! The advent of Augustus Saint Gaudens, son of a French father and an Irish mother—but born in New York—gave to America one of the greatest of modern sculptors. Saint Gaudens was trained in the Ecole des beaux Arts in Paris, but, deeply in love with American subjects, has been the most powerful factor in bringing American sculpture to its present state of excellence. In his bas-reliefs of the sons of Prescott Hall Butler, in his caryatids for the house of Cornelius Vanderbilt, the wall reliefs in All Souls' Church, New York, and the Princeton University Chapel, Saint Gaudens has shown that he had the soul of

the Greek sculptors in grace and purely external charm. But it is in expressing individual character that he achieves his greatest triumphs. Look upon his statue of Admiral Farragut in Madison Square; the Lincoln Statue in Lincoln Park, Chicago; the statue of Deacon Chapin, better known as "The Puritan," in Springfield, Massachusetts—here we see the hand of the great American master.

The granite hills of New Hampshire have given the modern world another great craftsman—Daniel Chester French. He early attracted attention by his bronze statue of the "Minute Man" unveiled at Concord in 1875. After passing through a period of struggle, he emerged into real fame through his colossal statue of the "Republic" for the Columbian Exhibition, and his remarkable relief of "Death and the Sculptor." His statue of General Cass, his reliefs of angels for the Clark Memorial, and his group for the John Boyle O'Reilley Memorial, are works of the very first rank.

Modern America is beginning to produce the highest art of the times. Frederick MacMonnies, a pupil of Saint Gaudens, had first to seek recognition in other lands. His statue of the "Bacchante" aroused the ire of the conservatives in Boston. And yet that statue, as well as his "Boy and Heron" and his "Pan," are striking examples of true American energy and directness in art. His statue of Nathan Hale in the City Hall Park, New York City, is one of our best civic monuments.

The work of Herbert Adams, of Brooklyn, shows his indebtedness to Saint Gaudens in his bronze angel for Emanuel Baptist Church, Brooklyn, and his marble bas-relief for the Judson Memorial Church, New York. Almost alone among our sculptors, Adams has turned to the Florence of the Fifteenth Century for his inspiration. His delicately colored female busts, and his relief entitled "Orchid," have an exquisitely refined Florentine charm.

Sculpture is coming in America—in fact it is already here. The list of sculptors is by no means exhausted with the names we have mentioned.

Art in America has arrived; its various schools are performing an inestimable service to the American people; estheticism is ingrafting itself into our national life. And yet we are only in the beginning of our art era. If, as Zangwill says, "Art is Truth made Beautiful," or, as Delsarti has said, "Art is Emotion which has passed through Thought and become fixed in Form"—then the world must in the coming generations look to the American democracy for the liberalizing influences, the emancipation from old schools and forms—for the new era in the Fine Arts.

GREAT AMERICAN COMPOSERS

"The man that hath no music in himself,
And is not moved with concord of sweet sounds,
Is fit for treasons, strategems, and spoils."

—Shakespeare: "Merchant of Venice."

HE American Longfellow in one of his poems defined music as "the Universal Language of Mankind." It is indeed this and more—it is the medium of national expression, the voice from the heart of the people, the outpouring of a nation's soul. Music may speak in a "universal language," but it assumes the physical and spiritual intonations of the various groups of people in their individual nations and is a true psychological interpretation of national character.

Music is not only a psychological revelation, but it is an index to the economic and social status of a nation and authentically narrates the historical development of the people. It may be a joyous outburst as in exultation over victory, or sorrowful as in a pæon of discouragement and misfortune. It assumes the melancholy tones of revolution or the light moods of a pleasure-loving race. It depicts the varying national moods in the various national epochs—tragedy or jubilation, comedy or romance—and rises in devotional supplication according to the spiritual insight of the people.

Music is technically defined as the science of combining tones in melodic, rhythmic, and harmonic order, so as to excite the emotions or appeal to the intellect. For untold ages it was purely emotional. With its development as a science, in the Middle Ages, it appealed almost entirely to the intellect, until to-day the truest music is that which combines both

the intellectual and the emotional—the mind and the heart.

In America, we have produced but few masters of matured musical expression, but rather a race of music-lovers from which eventually will arise the American masters. It may be truly said that the American people have been bringing their music with them in their migrations from the Old World. The American democracy is composed of the blood of all the races of the earth—it is the product of the older civilizations turned into a new mold from which is evolved a new, strong, virile race. Thus we have in this country the living spirit of all the world's music—the millions of Germans, Italians, Polish, and those of other strains that have given the world its noblest compositions have brought with them to America the



GLORIOUS VALLEY OF THE YOSEMITE—It lies in the heart of California, with its beautiful waterfalls and noble forests—The Yosemite National Park in its primeval grandeur, sculptored by glaciers, extends over forty-eight miles—It is the supreme beauty of nature in its mildest moods.



 $\begin{array}{c} {\rm MOST~MAGNIFICENT~LIBRARY~BUILDING~IN~THE~WORLD-Library~of~Congress~in~Washington}\\ {\rm --It~occupies~three~and~three-quarter~acres~and~can~accommodate~over~4,000,000~volumes}\\ {\rm --It~cost~\$6,500,000~and~contains~the~work~of~forty~American~painters.} \end{array}$



NATIONAL MUSEUM AT WASHINGTON—This is the National Depository for scientific and historic collections—The building cost \$3,500,000 and contains exhibits relating to the origin and development of the American people.

GREAT AMERICAN COMPOSERS

very soul of music. These peoples who have come to us from foreign lands bring with them the genius of Beethoven, the world's supreme mas-

ter, and the passionate intensity of the great Wagner.

The strains from the masters rise from the homes of the people throughout the republic. All the tone-masters of the modern world are the common heritage of the American people, and their voices live and speak throughout the nation—the organ tones of the greatest of all masses from Bach; the noble melody of the world's greatest oratorio from Handel; the scores of the first dramatic school of operatic music from Glück; the classical piano sonatas introduced by Haydn, improved by the melodic grace of Mozart, and brought to a culmination by the super-master Beethoven; the varied works of Mendelssohn, Schubert, Schumann, Verdi, Bizet; Liszt, king of the pianoforte, and Chopin, the poet of the piano. A host of modern composers have endowed America with their melodies—Russians, Polish, Hungarians—the genius of the earth finds its patrons among the American people.

So it is that the time cannot be far distant when America will produce its own masters—its own school of native music which will contribute generously to the world's masterpieces—for we have here in this country the nervous energy, the suppressed emotions, the spiritual force, the intel-

lectual growth, the spontaneity from which all art bursts forth.

The first settlers of America viewed music very suspiciously; they were a colorless people, prosaic and without temperament. Their forebears had never produced a musician of the first rank; then music like many other arts was held to be sinful under their theocratic régime. Some New England communities banished it under the pretexts that "the names of the notes are blasphemous; it makes a disturbance, grieves good men, exasperates them and causes them to behave disorderly."

Music in America is a very recent development. Indeed, with the exception of a few names, every American composer of note is of the present generation. While almost every American composer received his training at the hands of German teachers, American music has always struck a personal note. Nor is this due to the use of negro or Indian themes from which native composers cannot be said as yet to have derived much inspiration.

America has brought forth, in the last generation, a school of orchestral writers of which John Knowles Paine (1839–1906), George Whitfield Chadwick (1854——), and Edward Alexander MacDowell (1861–1908), are the foremost, while Horatio Parker (1863——) has brought the American oratorio to a much higher standard than it had ever before attained. These names are now familiar to European concert-goers.

Let us meet these men with a passing introduction in the order of their day. Paine, the American organist and composer, was born in Maine and at an early age felt the spell of Germany; and there he went to study with the masters. The love of homeland soon called him back, and he found himself in the classic surroundings of Cambridge as a professor of music at Harvard. The Muses cast their spell over him, and his first contribution was the music for the "Œdipus Tyrannus" of Sophocles. He was chosen to write the "Centennial Hymn" to Whittier's words for the Centennial Exposition at Philadelphia in 1876, and the Columbus march and hymn for the World's Columbian Exposition in Chicago in 1893—thus bestowing informally upon him the first "laureateship" in our national music. He rose to his full height, however, when he wrote the opera "Azara," which is worthy to become a permanent work, and later produced many symphonic poems and cantatas.

New England, that portion of our country which has contributed so largely to American nationality, then gave another of its sons to the Muses—George Whitfield Chadwick—a product of Massachusetts. Chadwick, too, was drawn to Leipsic and then returned to Boston, where he became a musical director and conducted the annual music festivals at Worcester. His claims to distinction lie in his opera "Judith," a symphony "Jubilee,"

a comic opera "Tobasco," and a chorus, the "Columbian Ode."

The greatest American composer, according to the foreign critics, is Edward Alexander MacDowell. A New Yorker by birth, but of Scottish descent, MacDowell early won recognition in Europe. He studied in Paris and in Germany. At the age of twenty-one, he was invited by Liszt to play his first piano suite before the formidable Allgemeiner Deutscher Musik Verein, the most exclusive musical society of Germany, which accorded him an enthusiastic reception. His works succeeded from the first in winning favor; they are played constantly in Germany, Austria, Holland, Russia and France. One of them was performed three times in one single season in Breslau.

MacDowell never was attracted by negro music, but always contended that the virile strains of Indian songs are more adapted to the American temperament than the rather lazy, sensuous slave tunes of the South. He collected and compiled the folk-music of the prairies and based one of his most important works upon Indian themes. This is his "Indian Suite"—a work which is being performed frequently and always leaves a very profound impression on the audience, especially the solemn dirge which constitutes one of its numbers. Besides the "Indian Suite," MacDowell has written several poems for orchestra and orchestral suites. His sonatas, "Eroica," "Tragica," "Scandinavian," and "Celtic," his various com-

GREAT AMERICAN COMPOSERS

positions for piano, and his many songs have great charm and individuality. In recitals of his own compositions MacDowell showed that he was not only a great composer but a pianist of the first rank.

The classicist of the conservative academic school in American music is Horatio William Parker—the scholar of almost every known musical form from a symphony to an operetta, from an oratorio to chamber music. Parker is another product of Massachusetts brought into an European environment. He was graduated from the Munich Royal Conservatory and then came home to his native land as an organist and professor of the theory of music at Yale University. His compositions rank high in American music; they include the oratorio "Hora Novissima." the first American music presented at an English musical festival; "A Wanderer's Psalm," which also was given at the English festivals; the oratorio of "St. Christopher"; the cantatas "King Trojan" and "The Kobolds," with many later works. It is Parker who holds the distinction of composing the first opera of the classical school that approaches the long-sought ambition of "the great American opera." His production of "Mona" received the \$10,000 award offered in competition with all the American composers by the Metropolitan Opera Company. This earned for him the position of our "greatest American composer" after the death of MacDowell.

The Spirit of Music is now reigning over America—genius is struggling to break its bonds and soar to the pinnacle of the divine art. Many notable composers are rising, whom, however, the limitations of these pages will not allow us to discuss—but among them are Converse with his "The Pipe of Desire" and other notable contributions; Victor Herbert with his "Natoma." and Arthur Nevins.

America has produced a popular idol of modern pianists—Ethelbert Nevin. He was born near Pittsburgh. His writings have been altogether along the smaller lines of composition, short, simple, delicate little pieces, which have won him an enviable place as a worker in gems. It is pleasant to record the achievements of a composer who has been financially successful without ever forfeiting the respect of the greatest artists and harmonists, and without sacrificing his own conscience and individuality. Graceful and lyrical, though not afraid of radical modernism in harmony, he devoted his genius to songs and piano pieces exclusively. His "Sketch-Book," "Day in Venice," "In Arcady," "Serenade," justify fully what the famous pianist and musical editor, Klindworth, said of him: "He can say for the musical world something that no one else can say."

America has given the world one of the most versatile of geniuses in John Philip Sousa, bandmaster, composer, novelist, and writer of humorous verse. At the age of 11 he first appeared in public as a violin soloist,

at 15 was teaching harmony, at 22 became one of the first violins in an orchestra conducted by Offenbach, and later was appointed conductor of the United States Marine Band.

It was when he began to compose marches that his fame spread, first throughout this country, then abroad. Such is the lilt of his music that his marches have invaded the realm of the dance. There is probably no composer in the world whose financial success equals his. He sold his "Washington Post" march outright for \$35, but his "Liberty Bell March" has netted him \$100,000, and his "Stars and Stripes Forever" added greatly to his fame and his income. He became too big for the Marine Band, and organized the Sousa Band, touring his own country, Europe, and then the world. When he began writing comic operas his success was still greater. He has written the music for eleven, including "El Capitan," "The Smugglers" and "The Charlatan." Also he has composed several suites, symphonic poems and many songs. Lately he has composed numerous other marches, including "America: The Messiah of Nations," "The March of the States," and "The Hippodrome March." Not content with musical fame, he wrote two successful novels, "The Fifth String" and "Pipetown Sandy." He has been decorated by the king of Great Britain and by the French Government. His compositions for the band, however, have won universal approval. Thus it is that the son of a Portuguese father and a German mother has made at least one variety of American music famous in all parts of the world.

Among the thorough Americans who should be mentioned here is Edgar Stillman Kelley, a son of the Middle West, having been born in Wisconsin. His first work was stage music to "Macbeth," and was played in San Francisco with great success. His second work, a comic opera, was refused by the man who had ordered it; completely discouraged, Kelley abandoned music for journalism. He was, fortunately, prevailed upon to return to composition. A humorous symphony and a "Chinese suite" met with immediate success after his previous disappointment. Two songs which are settings of verse by Poe, "Eldorado," and "Israfel" will probably prove his masterpieces; for they are perhaps the greatest lyrics in modern music.

To Anton Dvorák, the Bohemian composer, who came to this country in 1892 and glorified Southern music in his symphony, the "New World," America is in a measure indebted for the compositions of Harvey Worthington Loomis. An amateur until he met Dvorák, Loomis received so much encouragement at the hands of the Bohemian master that he decided to give a free rein to his artistic leanings. Although Loomis has written



MASTERPIECE FROM MORGAN ART COLLECTION—This magnificent painting is reproduced in this volume through courtesy of Mr. J. Pierpont Morgan—It is Raphael's "Virgin and Child, Enthroned with Saints"—The original is in the Metropolitan Museum of Art.





GIANT DINOSAUR FROM WYO



PREHISTORIC SKULL



IROQUIOS INDIAN WOMAN POUNDING COR!!



AMERICAN BIRDS - BROWN PELICAN FROM INDIAN RIVER IN FLORIDA



AMERICAN ANIMALS - ROOSEVELT ELK FROM NORTH WESTERN UNITED STATES



LARGEST METEORITE IN WORLD -361/2 TONS BROUGHT FROM GREENLAND BY ROBERT E. PEARY



BEAVERS FROM COLORADO - SHOWING HOW THESE ANIMALS LIVE AND



GHT 40 TONS-LENGTH 70 FEET



PPEHISTORIC SKULL



LIFE AMONG THE AMERICAN INDIANS

NAVAJO INDIAN GROUP



INDIAN WAR CANOE FROM ALASKA-64% FEET LONG DUG FROM A SINGLE TREE



POLAR BEARS - MALE ON RIGHT BROUGHT FROM ARCTIC BY ROBERT E. PEARY



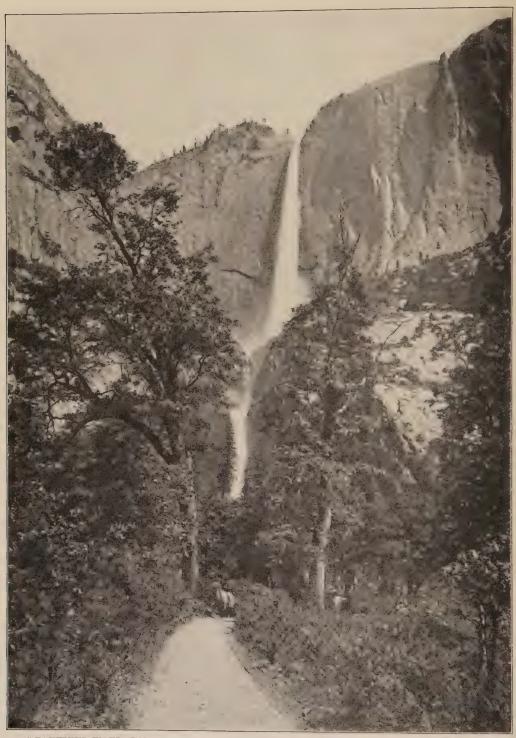
AMERICAN EGRET FROM SOUTH CAROLINA



CAN BISON OR BUFFALO - FROM THE PRAIRIES OF THE GREAT WEST



SHELL CAMEO CARVED IN ITALY
GEM COLLECTION OF J. PIERPONT MORGAN



BEAUTIFUL WATERFALLS OF THE YOSEMITE—Here silver streams fall through solid granite precipices into the valley below—These streams flow through the most beautiful pine forests in the world and form hundreds of glacier lakes,

GREAT AMERICAN COMPOSERS

over 500 compositions, only a few have been published, the flimsiest of them at that, ballet suites which reveal him as a master colorist.

Another composer with a strong national tinge is Henry Schoenfeld, of Milwaukee, who, long before Dvorák had called the attention of American musicians to Southern melodies, embodied them in his "Suite," his "Sunny South," and other orchestral works. Indian themes fill the texture of his "Three Indians." Finally, his patriotism expressed itself through his "American Flag," a festival overture inspired by Rodman Drake's

familiar poem.

While Arthur Foote, of Salem, Massachusetts, has written very solid compositions, some of them performed with success by the Boston Symphony Orchestra, his real contribution to American music will probably be his choruses for men's voices. For two years the leader of the Glee Club of Harvard University, Arthur Foote acquired a decided fondness for the color and warmth which characterize college singing. He came to appreciate the leaning toward dramatic effect, as well as the sense of wit and humor which glee clubs cultivate, and which is not essentially incompatible with real value in music.

There is also a large body of naturalized foreigners, the best known among them being Walter Damrosch, born in Breslau, Germany, and Victor Herbert, born in Dublin, who are giving their genius to make American musical life one of great activity. The present generation of American

composers gives the most glowing promise for the future.

"Let me write the songs of a nation and I care not who makes the laws," said a philosopher. This is especially true in America, where the popular song is having its vogue. In the short song form, native talent is

being more and more recognized.

America will give the world great music, because the national characteristics of this country embody all the essentials of the Art—nervous energy, reserve force, controlled temperament, human passion, dramatic action, intellectual poise, economic ideals, and spiritual power—all of which, when directed in the channels of music, will make noble contribution to the art which "raises the soul above all earthly storms."

In the words of Longfellow we may say:

"Yea, music is the Prophet's art Among the gifts that God has sent, One of the most magnificent."

CHAPTER XX

GREAT AMERICAN EDUCATORS

"I speak of that learning which makes us acquainted with the boundless extent of nature and the universe, and which, even while we remain in this world, discovers to us both heaven, earth, and sea."—Cicero.

HE building of a democracy—its success or failure—depends upon the average understanding of the average man—a common standard of the common knowledge necessary for each to assume his portion of the responsibility and perform his part

of the labors required in the daily task of self-government.

"Knowledge is power," said Bacon, and Emerson added, "There is no knowledge that is not power," while Addison sounded a warning when he declared: "I would rather excel others in knowledge than in power." This is the handwriting on the wall to all nations struggling toward democracy—their security rests in free and equal distribution of educational opportunities; in common knowledge as the common property of all the people. This problem is of larger economic importance to a nation than the distribution of its wealth, for any community in which knowledge is the common property of all the people will be able to solve wisely all other problems that may arise.

Emerson defines knowledge as "the amassed thought and experience of innumerable minds," but we would add—placed at the disposal and within reach of all the people all the time. Education of the fortunate few develops an educational autocracy which is equally as dangerous as financial oligarchy or industrial feudalism. The education of the masses is the whole secret of democracy, and self-government cannot exist with-

out it.

This is the foundation stone upon which American nationality is being constructed—the free public school, which is perhaps America's greatest contribution to civilization. There are to-day more than 20,000,000 children in the public schools of the United States—raw material being molded into units capable of self-development, self-control, and self-government. This is costing the nation annually more than \$800,000,000, and it is the biggest dividend-paying investment that a nation has ever made. It is estimated that we expend \$2,000 on every child in the United States in equipping it for self-support, to send it out into the world to develop the natural resources of the earth and thus increase the

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wealth of the nation. Each child is itself a mine of hidden wealth for which the public school acts as a prospector and endeavors to strike a paying vein of natural wealth. The public school system is a co-operative, profit-sharing plan, whereby all the people as common stockholders undertake to develop the natural resources of their offspring, thus increasing not only the earning power of the individual but multiplying the wealth of the nation many fold. The discovery of native genius in one child in a generation may contribute billions of dollars—incalculable wealth—to human society. "The learned man," as Phædrus said, "always has riches in himself."

The origin and development of this educational system, like that of all other momentous ideas, were born of many struggles and much opposition. Education for many centuries, until the American idea was established, was left largely to the church. It was a monopoly controlled by a few privileged persons and dispensed only to those favored ones who could pay for it, or a matter of charity. From the earliest times the church encouraged learning and there were many great mediæval universities. Its first liberation began when the church discovered that knowledge was one of the attributes of God and the common inheritance of all the human race, and undertook to administer it as an adjunct to its ministry to the

spiritual forces, as the first step in finding God.

When the first Dutch traders came to New Amsterdam and the first English colonizers came to Jamestown they were in search of increased wealth and had no intention of founding a government. The earlier Spanish and French explorers were precursors of commerce and trade not education. The Pilgrim migration to Plymouth and that of the Puritans to Boston were wholly for purposes of liberation from autocracy. They came to establish religious ideals, but brought with them also an almost complete indifference to educational problems. It was not many years, however, before the Puritans recognized that there could be no freedom of religious expression without free knowledge. It was left to them to establish the first free elementary school, the first free Latin school, and the first university. The records of Boston show that in 1635 it was agreed upon "that our brother Philemon Pormort shall be entreated to become schoolmaster for the teaching and nurturing of children with us." For the support of that school the principal inhabitants of the town subscribed from four shillings to ten pounds each. Pormort's school still exists as the Boston Latin school.

It was on Christmas Day, in 1641, that the first real free school receiving an allowance "from the common stock of the town" was opened in New Haven, three years after the foundation of the city by a Massa-

chusetts company. This school had as its first teacher Ezekiel Cheever, America's first great educator. From the age of twenty-three when he arrived in Boston till he died in his 94th year, Cheever devoted all his energy to the training of youth and to devising educational methods. Cheever wrote the first text-books ever published in America. When he died at his post the great divine, Cotton Mather, delivered the funeral sermon and in speaking of Cheever's services said: "Ink is too vile a liquor; liquid gold should fill the pen by which such things are told."

Education, however, was an aristocracy in America for these first hundred years or more. Massachusetts and New Hampshire were the only places having a few free schools and those institutions had to wage a bitter struggle for existence. The American Revolution awakened the first real consciousness of the need of liberal education among the people. During the period following the war the typical New England Academy was originated. One of those institutions, Dummer Academy, had as one of its pupils Samuel Phillips Andover, to whom American learning is deeply indebted; he was instrumental in establishing Phillips Andover and Phillips Exeter Academies.

The greatest pioneer of free education outside of New England was the Governor of New York, George Clinton, who constantly tried to impress upon the people the necessity of training the minds of the young for the duties of free citizenship. It was not until 1812, however, that the movement which he had initiated in 1787 triumphed over indifference and prejudice and received the attention necessary for the establishment of free schools. The growth of democratic ideals found its reflex in the public school system. Daniel Webster sounded its depths when in his oration at the laying of the cornerstone of Bunker Hill Monument, he declared: "Knowledge is the only fountain, both of love and the principles of human liberty."

It was about the middle of last century that there appeared a man devoted to educational freedom and inspired by his comprehension of its power as a democratizing influence. To Horace Mann, America owes the absolutely modern and progressive trend which characterizes all her schools. To realize what forceful influence this great educator wielded over his times we only have to remember that the British Parliament ordered one of his reports on education printed and distributed all over England and that the German government had his fifth and seventh reports translated and printed in several large editions.

Born in poverty, Horace Mann (1796–1859) struggled to acquire a little education while working on a farm in spring, summer and autumn and while braiding straw for hats all winter long. Until he was fifteen



FIRST UNIVERSITY IN AMERICA—Glimpse of campus at Harvard, in Cambridge, Massachusetts—It was founded in 1636 as centre of American culture—The institution has about 5,000 students—Its productive funds are nearly \$30,000,000.



HISTORIC CAMPUS AT YALE UNIVERSITY—This institution was founded in 1701—It is located in New Haven, Connecticut, where it has about 4,000 students—
Its productive funds and endowments are about \$16,000,000.



HISTORIC UNIVERSITY IN THE SOUTH—Washington and Lee University at Lexington, Virginia—Chartered as "Liberty Hall Academy" in 1782; became Washington College in 1813—General Robert E. Lee became its president at close of the Civil War.



UNIVERSITY FOUNDED BY THOMAS JEFFERSON—University of Virginia, located at Charlottesville. Established by the State legislature in 1819 from a plan by Jefferson. The buildings form a picturesque quadrangle—Institution has about 1,000 students,

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years old, he never attended school more than ten weeks a year. The privations which he had to endure in order to go through college unaided made him almost a physical wreck, but his indomitable will carried him over all obstacles. After graduation, he found employment in a law office. At thirty, he was a member of the legislature and at once stepped into prominence. Disdainful of the business opportunities which his seat in the House could have secured for him, Horace Mann unselfishly gave his time and thought to educational reforms.

There has been no other instance in the parliamentary history of any State where a born leader, a man of commanding ability, of recognized skill in law and politics, devoted himself to legislative life for years with only one purpose—to pass laws for the benefit of children, idiots, the insane, the deaf, and the blind. Elected to the State Senate and almost immediately after to the presidency of that body, Horace Mann unhesitatingly abandoned what might have been a brilliant political career to accept the modest position of secretary of the State Board of Education. His reports created a violent outburst of indignation among the smug schoolmasters of New England, who felt to quote Mann's words, "driven out of the Paradise which their self-esteem had erected for them." Opposition to his ideas became venomous.

Fortunately, men of liberal minds like Josiah Quincy, Charles Sumner, Edward Everett, John G. Whittier, Theodore Parker, and others, pledged themselves, with a few prominent merchants, to protect Horace Mann against the machinations of the schoolmasters who had all but won over the legislature to their conservative views. Charles Sumner himself gave bond for the expenses that Horace Mann's proposed reforms would entail. The great educator began his work in earnest. Better teachers, better schoolhouses, and better books—such was the first part of his programme. Normal schools for the training of teachers was its first corollary. Mann started on a campaign tour of all the cities and towns in his State. He gave everywhere educational addresses and aroused the public and especially the newspapers from their indifference to matters of liberal education.

This American educator proclaimed that the day had come when the school system should be emancipated from its autocratic pedagogy. He asserted the rights of the pupil; he declared that flogging should cease; that fads should be eliminated from elementary schools; that schools should be placed in the hands of experienced superintendents; that the school year should be longer, and that more of the public moneys should be spent for public education.

These principles, which no intelligent person would even discuss in

our days, were revolutionary to Mann's contemporaries—to them he was a radical and a fanatic. At fifty-six, Horace Mann found himself defeated both as an educator and as a politician. Poor, broken in health, he left the State that had refused to recognize his talent and accepted the presidency of a small college in Ohio. There again the trustees soon made life unbearable for him. But during the six years of his presidency he labored to strengthen the faith and inspire the devotion of thousands of young men and women all over the West.

Mann died, however, in the knowledge that he had won a great victory. To-day the leaders of thought, men of character and weight in every line of endeavor, recognize in glowing terms the debt which they owe to Horace Mann. His last utterance was typical of his spirit: "Be ashamed

to die until you have won some victory for humanity."

The next progressive step in the educational emancipation of the American people introduces a woman—a woman with only the most rudimentary schooling, who never could write well, who never was a brilliant speaker, who never received much recognition in her day, and whose highest salary throughout her entire life was \$260 a year. This woman was Mary Lyon (1787-1849), the mother of educational privileges for American women. Something of her life is told in the chapter on "Great American Women." It is sufficient here to state that sixty years ago there was not one endowed seminary for girls on this continent. Now girls have at their disposal hundreds of colleges, seminaries, and normal schools. The first seminary was founded by Mary Lyon, who, after years of downright begging for the cause of education, finally collected \$60,000 wherewith she established Mount Holyoke Seminary in Massachusetts in the autumn of 1837. The opposition she encountered was very powerful, for in those days it was thought wrong, if not immoral, for girls to attend school. In fact, as late as 1810 there was no provision anywhere in America for the education of girls. Mary Lyon was submitted to much ridicule for insisting on the Mount Holyoke scholars doing a certain amount of housework every day. In spite of all the criticisms, pupils flocked to the new institution. The American public soon began to extend its endorsement to Mary Lyon's favorite saying: "Educate the women, and men will be educated."

The work of developing the normal school system was promulgated by David P. Page (1810–1848), who has deserved the name of "The Normal School Leader." No book on the subject of education has been more widely read and pondered over by American teachers than Page's "Theory and Practise of Teaching." He, too, encountered fierce opposition on the part of old-fashioned teachers and politicians. The normal school idea was considered as visionary. Page had to imitate Mann's

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tactics and present his case to the public in a series of addresses throughout New York State. Exhausted by the fight, he died in his thirty-eighth year. His book, however, has remained the gospel of the teaching profession.

To Henry Barnard (1811–1900), Connecticut and Rhode Island owe their system of free schools which for the past fifty years have ranked with the best in the country. A lasting monument to his fame is the "American Journal of Education," which he founded and supported, sinking ultimately his entire private fortune in the venture. The files of that journal contain an enormous amount of information about education the world over; no such series of books on education had ever been published.

A notable name in the West is that of Newton Bateman (1822–1897). No higher tribute can be paid to him than to characterize him as educational leaders of this country have done—"The Horace Mann of the West or the Abraham Lincoln of education." Many eminent men arose with the liberation of education: John Dudley Philbrick (1818–1886) is recognized as the greatest City School Superintendent; Edward A. Sheldon, founder of the Oswego Teachers' Training School; James P. Wickersham is Pennsylvania's famous educator; his book on "School Management" remained a standard for over a quarter of a century and has been translated into many foreign languages, being used at present by all the normal schools in Japan. Due homage must be rendered to men like Mark Hopkins, Frederick A. P. Barnard, and Charles Finney; their lives were spent in building up a certain institution of learning rather than toward the introduction of educational reforms of general interest.

The future of the American nation rests largely in the control of the public school system. It is here that we are training each generation to assume the responsibilities of government. Here we find in embryo the business men of the future, the industrial leaders, the statesmen, the mechanics, tradesmen, and professional men—all must come from the ranks of our schools. We have established in this country the democracy of education—and it is to this principle that we must subscribe: Education is democracy; it is emancipation first from ignorance, then from oppression by others, then from bondage to self, and finally it is a complete spiritual awakening. "Every addition to true knowledge," said Mann, "is an addition to human power" and consequently to the ultimate greatness and

permanency of national existence.

"Woman's empire, holier, more refined,
Moulds, moves, and sways the fallen yet God-breathed mind,
Lifting the earth-crushed heart to hope and heaven."

—Hale's "Empire of Woman."

ARTH'S noblest thing," remarks Lowell, "is a woman perfected." And as Macaulay reflected: "The most beautiful object in the world is a beautiful woman"—a woman beautiful in character, in intellectual poise, in achievement. This epitomizes the American woman to-day and her service to the nation—"first in war, first in peace, and first in the hearts of her countrymen."

The most significant spiritual fact of the Twentieth Century is the struggle going in the breast of humanity to balance and readjust sex. The whole human race is at last becoming vaguely conscious that it cannot move onward without this readjustment. Therefore, an entirely new conception of the meaning of sex, and of the relation of men and women to each other, are being born out of this struggle. Woman's economic freedom, which has slumbered for ages, awakes, responsive to the forces of the stern world of man. The change startles the world, for it is shattering age-long customs, and one of the results of this revolution is that woman is emblazoning her name in the light of action and history. More women are actually under the light of public attention at this moment, because of their achievements, than there were through the whole two thousand years preceding the Nineteenth Century.

Who are the famous American women, and how did they acquire their fame? According to Mrs. Cora Sutton Castle, who is regarded as an authority on this subject, there are in all history the names of 868 women, each of whose achievements were sufficient to give her permanent record. Of this number seventy-five are American women, a very large number considering the short history of the United States. Mrs. Harriet Beecher

Stowe is the most widely known American woman in history.

It is a remarkable fact that, with the increase of population of the American people by every ten millions, their increase in eminent women is far more than corresponding. The status of the American woman has so changed that her world fifty years ago is as much a stranger to her world to-day as the Tenth Century is to the Twentieth Century. This



OLDEST COLLEGE IN THE SOUTHERN STATES—William and Mary College was founded at Williamsburg, Virginia, in 1693—Second oldest college in United States, with Harvard first—First American college to establish chairs of law and history.



GLIMPSE OF PRINCETON UNIVERSITY—This institution was founded in Princeton, New Jersey, in 1746—It has nearly 2,000 students—Its productive funds are nearly \$6,000,000—Woodrow Wilson was at one time President of this University.



FIRST COLLEGE FOR WOMEN IN AMERICA—Vassar College is located at Poughkeepsie, New York—It was founded in 1861 "to accomplish for young women what other colleges are accomplishing for young men"—This institution has about 1.200 students.



EDUCATION OF WOMEN IN AMERICA—Smith College is located at Northampton, Massachusetts—It was founded in 1871 and was among the first to recognize music and art among the qualifications for a degree—It has over 1.700 students.

great change in her position has been brought about by the revolution in her education and the wide extension of her employment. No woman is making such progress as the American woman.

Here only brief sketches of a few names taken from history can be given. The eminent living women are so numerous that it would require more than a chapter of this book simply to mention their names. The following sketches are of nine representatives of famous American women.

The first of these was Deborah Sampson, a school teacher born in Plymouth County, Massachusetts, 1758. At the age of twenty, she assumed male attire and joined the Revolutionary army. She enrolled under the name of Robert Shirtliff and was one of the first volunteers in the company of Captain Nathan Thayer, of Medway, Massachusetts. She took part in many brisk actions and was twice wounded, once by a sword cut on the left side of the head. Her companions called her Molly in allusion to her bashful behavior and her beardless face, but to the last day she escaped detection, even when she was taken with brain fever and almost died. Finally a physician discovered her patriotic fraud and sent her with a personal letter to George Washington's headquarters. The great man received her without speaking one single word and handed her a discharge from service together with a round sum of money. After the termination of the war she married Benjamin Gannett, of Sharon, Pennsylvania. When Washington was President she received a letter inviting her to visit the seat of the Government. Congress was then in session, and during her stay at the capitol a bill was passed granting her a pension in addition to certain lands which she was to receive for her services to the country in a military capacity.

Margaret Fuller (1810–1850), who was the most brilliant of New England women, came from a family in which there had been many men of unusual intelligence. All her life she was fortunate enough to enjoy the acquaintance and the friendship of the leading people of her day. Her first meeting with Emerson, when she was about twenty-five years old, had a decisive influence upon the whole course of her life. He saw at once what a superior woman she was, invited her to Concord, and, when it became necessary for her, owing to her father's death, to earn a living, Emerson introduced her to many people whom she taught or before whom she lectured. Her first literary effort was a translation of Eckerman's conversations with Goethe, when she was only twenty-eight years of age. One year later she became editor of the Dial, which was published to spread the doctrine of transcendentalism. After she had held that position for five years, she was invited by Horace Greeley to take charge of the Tribune's literary department. Some of the essays she published in the

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Dial and the Tribune: "Summer on the Lakes," "Woman in the 19th Century," "Papers on Literature and Art," have been frequently reprinted and live in our literature as classics of their kind.

Margaret Fuller's character made her perhaps more powerful and better known than her writings. Her great love and her helpful influence, her active mind, her strong nature left a very deep influence on all those with whom she ever associated. At thirty-six she went to Europe and added many great names to her list of friends. In England she was most intimate with Thomas Carlyle and in France with George Sand. While in Italy she married Marquis Ossoli and, as Rome was then under siege, she took charge of one of the hospitals and distinguished herself for her zeal and devotion. Soon after she decided to return to America, but the vessel on which she sailed was wrecked off Fire Island and she was drowned with her husband and child.

Lucretia Mott (1793-1880) was one of the first women in this country to take a decided stand against slavery. Before the names of Garrison and his friends were heard, she began to use her influence in favor of abolitionism. She taught and at a very early age preached in Quaker meeting houses on slavery, temperance, and pacificism, and gained so much popularity that she journeyed over the country addressing groups of Friends. She and her husband were appointed, together with Garrison, and Mr. and Mrs. Stanton, to represent America at the World's Anti-slavery Convention in London in 1839, but with the other women she was excluded from participation in the meetings. By Garrison's efforts, "breakfasts" were arranged at which they were allowed to express their opinions before the members of the congress. Lucretia Mott believed that women should have perfect equality with men, and, when the first Woman's Rights convention met at Genesee Falls, her husband presided and she proved one of the most active members. Besides being an eloquent speaker and an able worker, Mrs. Mott was a model housekeeper, who trained her children carefully, and loved her husband whose views coincided so completely with her own.

The career of Dorothea Dix (1802–1887) is a romance of philanthropy which the world cannot afford to forget. She has been called the most useful and distinguished woman that America has produced. As the founder of institutions of mercy she has no peer in history. She was first a school teacher and then a governess in the family of the famous Dr. Channing, but ill health compelled her to abandon an educational career. In spite of her weakened condition, however, she engaged in philanthropic work. The first thing that she did was to improve the condition of the women inmates of the East Cambridge jail, where she taught Sun-

day School. For two years, note-book in hand, she traveled from town to town, investigating the condition of the various jails, after which she sent seventeen appeals to as many legislatures, describing the condition of prisoners kept in "cages, closets, cellars, stalls, pens, chained, naked, beaten with rods and lashed into obedience."

The result of her exposures was the enlargement of three asylums, at Worcester, Massachusetts, Providence, Rhode Island, and Utica, New York; the establishment of thirteen asylums, one in each of the following States: New Jersey, Pennsylvania, Indiana, Illinois, Kentucky, Tennessee, Mississippi, Louisiana, Alabama, North Carolina, Maryland; and the Hospital for Insane Soldiers in Washington, D. C. She proposed, in 1850, a larger scheme of philanthropy than had ever been projected before. She petitioned Congress to appropriate 12,000,000 acres of public lands for the benefit of the indigent insane, deaf mutes and blind. The bill passed both houses, but President Pierce vetoed it. Dorothea Dix served as superintendent of women nurses during the four years of the Civil War, after which she returned to her former work and continued it until 1881, promoting the erection of hospitals and visiting those that had already been established. She built a hospital in Trenton, New Jersey, and died there in 1887.

Harriet Beecher Stowe (1812-1896), the most famous of American women, was the author of "Uncle Tom's Cabin," which appeared nine years before the Civil War and was undoubtedly the most widely circulated book in America. More than any other writings and more than all the speeches of all the abolition orators did it shape public opinion in the North as far as slavery was concerned. It was "Uncle Tom's Cabin" that built up the Republican Party and raised volunteers when the great conflict became unavoidable. Harriet Beecher Stowe was the daughter of the great divine, Lyman Beecher, and she was one of the most gifted members of the famous Beecher family. While in Cincinnati she married Professor Stowe, then president of Lane Theological Seminary, which her father had helped to found. She lived for some time on the boundary line of the slave States, and many a time she saw fugitive slaves who had crossed the Ohio River from the Kentucky shore dragged back to the life they hated in spite of what white people could do for them. The Abolitionist party was organized then, but was despised, even in the North.

Mrs. Stowe thought that if the world could realize the negroes' sufferings and the degrading effect which slavery had on white people, public opinion might change. It was then that she conceived the idea of writing "Uncle Tom's Cabin," and though very poor and obliged to care for several young children, she undertook her great work. Before this

she had written stories, but her name had never attracted much notice. Her book appeared in instalments in the Washington National Era. Besides creating a tremendous impression all over the States, "Uncle Tom's Cabin" brought its author fame and wealth. The most eminent people in the world entered into correspondence with her and her success as a literary woman was assured. Out of the fifteen volumes which she published, only two have retained a certain popularity.

Susan B. Anthony (1820–1906), like Lucretia Mott, was born a Quakeress in Adams, Massachusetts. She taught school from the age of fifteen to thirty, and then became very active in the total abstinence and anti-slavery movements. After the Civil War, she devoted herself entirely to the woman suffrage movement. In 1868 she founded *The Revolution*, a women's rights paper, which she edited for three years. She suffered valiantly for the cause which she advocated, and in 1872 decided to test the election law by casting a vote. She was arrested, tried, and fined, but this did not discourage her in any way. She spoke throughout the United States and England, took part in many State campaigns, and appeared before several congressional committees. She contributed to the leading magazines, and, with Mrs. Elizabeth Cady Stanton and Mrs. Matilda Joslyn Gage, published an extensive history of the suffrage movement in three volumes.

Elizabeth Cady Stanton (1815-1902), who had attended the London Anti-slavery Congress with Lucretia Mott, was the wife of an ardent abolitionist, Henry B. Stanton. She had for her time an unusual education, having studied mathematics, Latin, and Greek and having won a scholarship. She graduated at the head of the class at the Johnstown Academy and felt very indignant when she was not allowed to enter college, although the boys, who in scholarship had ranked after her, were granted that privilege. She helped her husband in his anti-slavery work and soon took up the cause of women's rights under the influence of the little Quakeress, Lucretia Mott. The way in which she had been treated at the London Convention aroused in her the indignation which she had felt at the end of her academic course over the disabilities of women, and she resolved to do all that there was in her power to have woman's position changed. It was partly due to her efforts that the first Women's Rights Conference met at Seneca Falls in 1848. Ever afterward, she devoted all her time and energy to creating a feeling favorable to the granting of equal rights to women.

Frances E. Willard (1839–1898) was the greatest woman orator that this country has ever produced and one of the greatest woman leaders of her time. She possessed eloquence, pathos, and humor to such a degree that



UNIVERSITIES IN THE SOUTHWEST—This is the University of Texas, located at Austin— It was founded in 1883—The University is conducted by the State and has about 2,700 students—It exerts a wide influence in the affairs of the Southwest.



CLOISTER GARDEN AT BRYN MAWR COLLEGE—This educational institution for women is located at Bryn Mawr, Pennsylvania—It was founded in 1880 and has about 500 students—This photograph was taken during an open-air play near the library.



BIRTHPLACE OF FEMALE EDUCATION IN AMERICA. This is Mount Holyoke College at South Hadley, Massachusetts—It was founded as a seminary by Mary Lyon in 1836 and became a college in 1881—This institution is a pioneer in female education.



AMERICAN COLLEGE GIRLS AT WELLESLEY—This institution is located at Wellesley, Massachusetts—It was founded in 1875 and numbers about 1,500 students—This picturesque scene shows the girls rowing on the lake, a feature of their student life,

she was surpassed by few platform speakers, and she threw into the great reform work for temperance an indomitable masculine energy. Incidentally, Miss Willard made a great speech at a Woman's Missionary meeting in Chicago in 1870 and spoke of her vision of a new chivalry—the modern crusade which the women of her country should enter upon; the chivalry of justice; the justice that gives to woman to be all that God meant her to be. The next day a wealthy, well-known Methodist called on her and entreated her to use the remarkable gift that she undoubtedly possessed and to speak out to the world that which God had put into her heart. She appealed to her mother for advice, and that large hearted woman told her to enter upon the work. The next day she addressed a great audience and on the following morning she awoke to find that her eloquence had made her famous.

The great temperance movement swept the country in 1874, and Miss Willard was the torch-bearer. She was made President of the Woman's Christian Temperance Union of Illinois in 1878. Her eloquence now reached the ears of the habitués of the saloons, and, looking into their pinched faces, she was reminded of the hunger which she had suffered in the last year or two while working without money. The next year she was elected President of the National Woman's Christian Temperance Union, and in 1881 she made a tour of all the Southern States, and not once did she offend the South. She was the first to conceive the international scheme of binding women in a strong bond of union the world over. It was this grand conception that culminated in the magnificent demonstration accorded her in Albert Hall, London, in 1897. She was called "the best loved woman in the United States." Congress gave her statue a place in Statuary Hall in the rotunda of the Capitol, and she was called the "Uncrowned Queen of America" on that occasion.

Clara Barton (1821–1912) began her career as a school teacher, and later, while working in the Patent Office in Washington, she discovered her real vocation when the first train loaded with wounded pulled into Washington on April 19th, 1861. She set out to nurse and feed the victims of the war and to cheer them up by reading to them newspaper accounts of the actions in which they had been injured. This, however, did not satisfy her. She applied for a pass beyond the firing line and obtained it. No one employed her, and no one encouraged her at first, but it was not long before the quartermaster recognized the value of her work and began to honor all her requisitions. She actually organized the hospital service of the Northern armies and compiled carefully the hospital lists. After the war, she conducted a vast correspondence, accounting to inquirers for over thirty thousand men dead or alive.

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When in Geneva in 1869, she heard of the International Red Cross Society, which had been recently founded. A year later, she could watch its wonderful work during the Franco-Prussian War, in which she served as a nurse. After her return to this country, she labored for five years to found an American branch of the Red Cross. In 1882 President Arthur showed himself willing to second her efforts.

The first American Red Cross Society sprang into existence, with Clara Barton as its president. She modified the aims of the society, to enable it to render services in time of peace. At present that great society ministers to all those that need its services. Its stamps are sold to help the consumptive, and, wherever a great conflagration breaks out, or wherever a flood or an earthquake makes thousands homeless, the Red Cross is there

ready for work of mercy.

One of the most useful and best beloved women of this country was Mrs. Mary A. Livermore, who passed away a few years ago. The name of Dr. Maria Mitchell also well deserves to be included in this list. While in charge of the chair of astronomy at Vassar, she discovered a new comet, a discovery regarded of so much importance in European scientific circles that on her visit abroad she was accorded great distinction. Dr. Mitchell was one of the two first American women to receive the honor of being admitted as members to the American Society for the Advancement of Science, the other woman being Mrs. Elvira Lincoln Phelps, who distinguished herself by popularizing the study of the science of biology a generation ago.

Every profession and vocation now contains the names of eminent women. Within the last thirty years, more than twenty-five American women have attained eminent distinction in literature. Some of these names are household words among the American people. There is not a well read girl in the country and scarcely a well read man who has not perused the stories of Louisa M. Alcott. It is true that she belongs to an early generation, but her work is still perennially vital in the heart of the American people, which is more than can be said for some of the eminent male writers who were her contemporaries. And every one is familiar with the names of Mrs. Spofford, Miss Orne Jewett, Mrs. May Halleck Foote, Mrs. Elizabeth Stuart Phelps Ward, "Octave Thanet" (Miss Alice French), "Charles Edgebert Craddock" (Miss Murfree) and the author of "The Quick and the Dead," Constance Fennimore Woolsen, Frances Hodgsen Burnett, Mary Mapes Dodge, Mrs. Deland, Alice Cary, Louise Imogen Ginney, Edith Thomas, "Olive Thorne" Miller, Mrs. Jackson, and not the least among them is the American woman in Italy who assumed the famous pen name "Ouida."

All these names belong to the history of American letters, and the works of their successors now crowd our libraries and book stalls. They are a still more numerous company, for there are now more women writing in America than there were women writing in all the world forty years ago. And among them such women as Agnes Replier, Edith Wharton, Gertrude Atherton, "Kate Douglas Wiggin," Charlotte Perkins Gilman, Mrs. Wilkins Freeman, Mary Johnson, Mrs. Glasgow, Ella Wheeler Wilcox, Ida Tarbell, Elizabeth Jordan, and Elizabeth Bisland deserve to be mentioned for at least the contemporary fame which they have won.

And there are a number of other women like Helen Gould Shepard, Jane Addams, Mrs. Russell Sage, Mrs. E. H. Harriman, and Sister Rose Hawthorne, who have become famous on account of their great usefulness to the American people. These women are much loved by the people.

One of the most encouraging features in the progress of woman in America is the important position she is now taking in the advancement of science. Miss Edith Mosher has made a reputation for herself in the study of trees in Grand Rapids, Michigan. Mrs. D. D. Gailliard is well-known in the world of botany for the work she has done with orchids at Panama. Mrs. Myrtle Shepherd Francis, of Ventura, California, is now known as the "female Burbank." She experiments with old flowers. Dr. Elizabeth Babcock and Miss Alice Johnson have rendered excellent service to science at the Carnegie Institute, Boston, in their work in nutrition and diet. The science of archæology has acknowledged its debt to Miss Edith M. Hall in her noted work at the University of Pennsylvania. Wellesley College has also contributed original results of value to this science. In the Astronomical Observatory of the Carnegie Institute on Mt. Wilson, six women are employed on the staff. Miss Ella Flagg Young, the Superintendent of the Chicago Schools, and chosen a few years ago as residing officer of the National Educational Association, is an eminent woman in the field of education. From no list of contemporary famous American women could be omitted the name of Dr. Anna Howard Shaw, who has led the battle for woman suffrage. Dr. Shaw belongs to the ministry. The whole country knows the distinguished Washington lawyer, Mrs. Belva Lockwood, who was the first woman to practice before the Supreme Court of the United States. Nearly every State Supreme Court has its women practitioners. Mrs. Mary Margaret Bartelme is the presiding judge of the Childrens' Court in Chicago and well-known for her great tact and wisdom.

Some of the women mentioned above have not historically won fame, but they have achieved contemporary eminence. Many of them have done

more than their famous historic predecessors.

GRANDEUR OF AMERICAN SCENERY

"All are but parts of one stupendous whole, Whose body Nature is, and God the soul."
—Pope.

HE Americans can proclaim with Milton: "Accuse not Nature, she hath done her part; do thou but thine!" The American continent is the garden-land of the world; its beautiful rivers flow through fertile valleys, garlanded in multi-colored foliage; its majestic mountains lift their heads far into the sky like great watch-towers. Nature has reflected all her moods on the American continent.

While the blue seas sweep the southern shores under drooping palms and tropical skies, the snow-clad peaks stand guard over the ice-bound borders of the Arctic north. Every degree of temperature—the fruits and bloom of all climates, in contrast with frigid barrenness, make this continent a veritable planet in itself. There are rocky pinnacles, chasms, glaciers, extinct volcanoes, geysers, cañons, waterfalls, lakes, rivers, plains—all the creations of nature and geological wizardry.

Americans are discovering that American scenery is just as picturesque and much more grandiose and wild than the Alps of Switzerland. Switzerland has no such groves on its mountain-sides, and even the giant cedars of Libanus cannot compare with the big trees of California. Where else could one find those chasms of fearful depth and length for which a new

word canon had to be added to the vocabulary?

All the savage beauty of the Norwegian fjords adorns the coast of Maine. Mount Desert, some hundred miles from Portland, surrounded by the sea and crowned with mountains, affords the only instance along our Atlantic coast where mountains stand in close neighborhood to the sea. Upon its shores are masses of cyclopean rocks heaped up in titanic disorder, reminding the onlooker of the most picturesque medieval fortresses of the Old World. This island is about one hundred square miles in area. It bears thirteen peaks, the highest being Green Mountain, from which the view is most magnificent, for the forests of Mount Desert are crowded with evergreens, tall firs, and spruce trees, and the slopes of every peak descend into beautiful blue lakes.

Passing from Maine into New Hampshire, the traveler, seeking relief from summer heat in the lowlands, can range over a high tableland forty-



STUPENDOUS MOUNTAIN CANYONS IN GREAT WEST—The Royal Gorge in Colorado—More than 200 majestic peaks lift their heads into the clouds—Perpendicular gorges drop a mile in depth. Great railroads wind their way through these mountains.



NATURE'S MASTERPIECE IN ROCKY MOUNTAINS. Here we look upon the scenic grandeur of the "Am ican Alps"—Its beauties are equal to those of Switzerland or Italy—Here 130 snow-capped peaks pierce the clouds—Fifty peaks rise above 14,000 feet.



MOUS PAINTING BY AN AMERICAN ARTIST—This canvas is from the celebrated collection by Albert Bierstadt (1830-1902)—His paintings of the scenic grandeur of America gave him international reputation—He was elected to the National Academy in 1860.



GRAND CANYON OF COLORADO-1t is 300 miles long, nearly a mile deep, and about ten miles wide from rim to rim. A river flows through this gligantic gorge—Its rocky sides are magnificently sculptured with pinnacles and so-called temples.

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five miles in length by thirty in width, on which rise some of the highest mountains of Atlantic regions—Mount Washington, 6,285 feet, Mounts Adams, Jefferson, Madison, Monroe, all above 5,000 feet in height. Several valleys, watered by streams which run into the Connecticut or Canadian lakes, lie in this wilderness. The most picturesque of all is the Saco Valley, which spreads toward Lake Winnipiseoges, surrounded by the Sandwich and Cesipee hills, of which White Face and Chocorua are the loftiest peaks. The most impressive view of Mount Washington is from Mount Monroe. This peak rises in a lofty cone and shines with bare, gray stones across a wide plateau strewn with boulders. This elevated plain is about 1,000 feet above the sea. Patches of grass and hardy wild flowers appear in the crevices of the rocks, and now and then one comes upon small tarns or mountain ponds.

The Lake of the Clouds, the head-water of the Amoonoosuc, is the most beautiful of these crystal waters. Passing around the side of Mount Monroe, one looks into a frightful abyss known as Bates' Gulf. Clouds and masses of vapor hang against its precipitous sides, and gigantic rocks strew the bottom of the gorge. Opposite Eagle Cliff there rises Profile Mountain, covered with forests far up its side, over which, looking down the valley from a height of 2,000 feet, appears the wonder of the region—the Old Stone Face as clearly defined as if chiseled by a sculptor. Hawthorne has written some of his most charming pages about this curious mass of granite blocks, which form an overhanging brow, a large, clearly defined

nose, and a sharp, decisive chin.

We must now leave New England, with its many beautiful vistas of mountain, lake, and seacoast and pass into the valley of the Hudson. This river rivals in beauty the most picturesque parts of the Rhine and of the Danube valleys. The Old World streams are romantic in their feudal castles that rise on every hill, commanding their banks, but the Hudson is a more powerful stream than the Rhine or Danube, and the magnificent Palisades are higher and more savage than the Rhineland hills. For thirty miles or more, their wall of vertical and columned rock rises to a height of three hundred and sometimes five hundred feet, attaining their greatest magnitude in enormous and jutting buttresses, that thrust themselves into the river opposite Ossining. Here and there, the wall is cut by deep and narrow ravines. Through these fissures in the cliffs are gained some of the most perfect views of river and landscape in the world.

The region is rich with legendary and historical associations. There is Stony Point, where Anthony Wayne led his men through the July midnight in 1776; Treason Hill, where Arnold, the traitor, matured his plans and where André, the spy, took the papers that betrayed the secret. Finally,

the whole region is peopled with creatures of Irving's fancy—Rip Van Winkle, Icabod Crane, the "headless horseman," and all the folk of the

Catskill legends.

We find many interesting hills and streams and picturesque lakes along the southern Palisade country. Greenwood Lake, on the boundary line between New Jersey and New York, has been compared to the famous Windermere Lake of England. The hills are rugged and wild—Eagle

Rock and Washington Rock.

Some one hundred and forty miles from the sea in the northern Palisades, rises a cluster of mountains to which the early Dutch settlers gave the name of Catskills. They approach to within eight miles of the Hudson, and, like an advanced bastion, command the valley for a considerable distance. They slope gradually on the western side toward the central part of New York State, running off into spurs and ridges in every direction. On the eastern side, on the contrary, they rise abruptly from the valley to a height of more than four thousand feet, resembling, when looked at from the river, a huge fist with the palm downward, the peaks representing the knuckles and the glens and cloves the spaces between them. The traveler seldom sees a greater variety of hill and valley. The Catskills contain some of the most picturesque scenery in the world. The beauties of the Clove and the falls of Kauterskill have been immortalized by Irving, Cooper, and Bryant.

The Adirondacks is a savage mountain forest of immense area in the most advanced State of the Union. This region is therefore an anomaly. Until late years it has been given over to solitude and has had no counterpart on this continent east of what may be called the Far West. It possesses a labyrinth of beautiful lakes and rivers, such as is to be found in no other mountain forest. Every year thousands of excursionists from the great urban districts invade its silent valleys, climb its rugged cliffs, and canoe on its limpid lakes. The Adirondacks is becoming one of the great summer playgrounds of the nations and yet there are many hundreds of square miles in this region that has never been trodden by the foot of the white man, except the surveyor. The wild beauty of this region is a con-

tinuous discovery.

Niagara Falls, with its Whirlpool and Whirlpool Rapids, is conceded to be the sublimest of the natural wonders of the world. Five great inland, fresh water seas hurl themselves over these falls 165 feet high on their way to the Atlantic at the rate of 20,000,000 cubic feet of water a minute. Nowhere on this globe, three-fourths of the surface of which is covered with water, is there to be seen such a grand exhibition of the power of water. Men and women from over all the world, who see the sun

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as moles, who look at the sea with blank souls, and for whom a land-scape or a skyline with its mountain peaks or the stars of the night are nothing but nature's hieroglyphics, will sit for hours and days at a time by the Niagara River, literally spellbound by the spectacle of the mad, thundering waters. The true psychology of Niagara Falls is yet to be written, but it is a spectacle that has borne many a spectator away from himself and out of his clay. Nature summons its formative might to impress man with the presence of God in the fall of a river. The refined, educative value of Niagara is inestimable. Father Hennepin, who first viewed it in 1678, is said to have been moved to tears by its power.

The glory of Niagara is rivaled by the magnificent falls half-way between the great cataract and New York City—the Trenton Falls, which are fourteen miles from Utica. The River Kanata here makes a torrentuous descent from the mountains into the valley by a series of six falls, every one of which has a perfectly distinct character owing to the varied

geological formation along the bed of the river.

We would linger along the St. Lawrence and the Thousand Islands on the Canadian borders, but these pastel sketches require us to hasten across the vast continent on a rapid sight-seeing journey. Let us stop a moment on the small Island of Mackinac, in the Straits of Mackinac, connecting Lakes Huron and Michigan. It contains in its six square miles some of the wildest and most picturesque scenery of the continent. The Arch Rock is a natural bridge one hundred and forty-five feet high and only three feet wide, spanning a chasm with airy grace. Fairy Arch is a similar formation rising from the sands of the beach. There is also the Sugar Loaf, a conical rock 134 feet high, breaking up the monotony of a grassy plain; there is Robinson's Folly, a stern bluff on the water's edge; Lover's Leap, a strange pile of rocks towering over the blue-green spruces; while the woods covering the small island contain very beautiful trees.

Passing down from the Great Lakes, we come to the Blue Ridge Mountains in Pennsylvania. Here we find the glacier rocks cut in two by the mighty Delaware River, which opens through it a passage or cañon called the Delaware Water Gap. The two mountains which form this great chasm are named fittingly—the one on the Pennsylvania side is Minsi, in memory of the Indians who made the region their hunting ground; the one on the opposite bank is the Tammany, in memory of the grand chief who under the elm tree of Shackamaxon made a covenant with William Penn. The bold face of Tammany exhibits vast, frowning masses of naked rock, while the densely wooded Minsi displays a thicket of evergreen, with the railway tracks skirting it by the water's edge. One of the curiosities of the Gap is a wonderful lake on the summit of Tammany. Masses of bare

graystone stand about its margin. In this unbroken solitude is a single

Indian grave in a narrow cleft of rock.

Along the winding range of the Blue Ridge, we view many objects of interest and beauty. Crossing the North Fork of the Cacapon River into West Virginia, one passes the imposing cliffs of Candy Castle. A few miles distant along the same stream is the famous natural ice-house called the Ice Mountain. Then near Romney we have Hanging Rock and the view from the yellow banks. Farther on, we pass through Mill Spring Gap and wonder at the long, regularly scalloped ridge of the Trough Mountains. A few miles from Petersburg one reaches the pinnacles, one of which bears a crude resemblance to the Obelisk of Luxor, and the other to a monumental spire in Gothic style. Cathedral Rock is the wonder of the region—a vast minster with a great portal, a pointed arch, a tall spire with its pinnacles, turrets, oriels, and double arched windows. Below, the foundations are laid in square cut blocks; the sides are ribbed with inclining buttresses; stranger than all, the short, unfinished tower has not been omitted.

The Natural Bridge of Virginia has a grandeur not equaled in any part of the world. It is in the southeastern corner of Rockbridge county, in the midst of the wild Blue Ridge scenery, fourteen miles from Lexington and about thirty-five miles from Lynchburg. The arch is some two hundred feet high and surmounted by solid live rock, over which grow giant white oaks. The rocky sides of the arch have tempted many a climber, and among the names of the daring ones, who have crept up part of the way,

is that of George Washington.

The Natural Cave is located in Edmonson County, Kentucky. Here we find five hundred known caverns penetrating a level plateau rising out of a limestone plain. This plateau is held up by a capping of massive sandstone. These many caves have been carved out by the action of the water on the carboniferous limestone. In passing through the limestone the water becomes charged with lime and this is redeposited forming stalactites and stalagmites. The upper member of the limestone contains iron pyrites and through the agency of moisture and air upon these and the limestone, sulphate of lime or gypsum is formed and the gypsum crystals incrust the walls and ceilings in the drier and upper portions, more especially in Mammoth Cave, the largest of these caves, where beautiful and fantastic figures of sparkling white are formed. These gypsum formations grow out of the rock as hoar-frost grows out of the ground. The stalactite formations in Mammoth Cave, while beautiful, especially in some of the great domes, are surpassed by the wonderful pendants, alabaster and many onyx columns, and translucent curtains



NATURAL BRIDGE OF VIRGINIA—This is one of nature's strangest moods—The mountain forms a perfect arch 200 feet high—It is surmounted by solid rock over which grow giant white oaks—Washington climbed this rock barrier.



LARGEST SEA OF FRESH WATER IN THE WORLD—The area of this chain of five lakes is 90,000 square miles (larger than England, Scotland and Wales combined)—These great inland seas are important factors in the development of American commerce—The cities around the Great Lakes are developing more rapidly than any group of cities in the world,

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in several of the caves in other parts of Edmonson County; but no cave approaches the Mammoth in size and sublimity of its avenues, its aweinspiring domes, the mysterious rivers and in the rare beauty of the festoons of flowers and sparkling crystals ornamenting miles of avenues.

The tableland of the Blue Ridge in the valley of the French Broad River in North Carolina is another part of the country which is almost as replete with strange geological phenomena and startling contrasts as the Yellowstone or the Yosemite. The geographical center of the region is Asheville, over 2,000 feet above the level of the sea. The view from the city embraces on one side interminable ranges of mountains, on the other the deep, savage valley. The river is torrent-like, boiling and bounding, cut by rapids and tumbling waterfalls, detaching from its steep banks masses of rocks that stand column-like or undermining the cliffs which in many places hang over its course threatening momentarily to topple down. Mt. Mitchell here is the highest peak east of the Rockies.

The sun-kissed hills of the Southland, washed by the blue waters of the gulf and the Southern Atlantic, form a garden-land, appareled in trop-

ical foliage-an American Mediterranean.

The scenery of the Atlantic region, rugged and grand as it may be, does not compare in any way with the mighty aspects of nature west of the Great Plains. In the Rocky Mountains, or in the California ranges, we step into a Land of the Gods—an American Olympus. There we find the most extraordinary scenery preserved as a recreation-ground for the nation. The greatest of America's natural wonders are the Yellowstone and the Yosemite Parks, which are described in the chapter devoted to Beautiful American Parks.

After crossing the Wyoming border and the Laramie Plains, we reach the first buttresses of the Rockies. On the way there one meets the curious buttes, which are grouped together like giant fortresses, with fantastic towers and walls, lonely, weird, and strong. The Church Butte is the grandest of all; it looks like a gigantic cathedral falling into decay, quaint in its crumbling ornaments, majestic in its height and breadth, surrounded by the barren waste.

The Rocky Mountains in many respects surpass the Alps. From the summit of Mount Lincoln, on a clear day, a view is obtained which could not be duplicated in Switzerland or Italy. Peaks ascend so thickly that nature seems to have built a dividing wall across the universe. There are 130 of them; thirty of these are not less than 13,000 feet high, almost the altitude of Mount Blanc; fifty rise above 14,000 feet. It is only the Himalayas which could present such an aggregation of lofty mountains. The virgin beauty of the Alpine snow plains is changed in

form, for the snow in the Rockies accumulates in banks or masses but does not conceal the landscape, as it does on the Alpine plateaux. But the Alps never present anything as curious as the various canons of Colorado, the Grand Canon, Labyrinth Canon, Cataract Canon, Marble Canon, and one hundred others cut by ancient glaciers through limestone or marble.

In contrast with the Atlantic coast, the whole Pacific seaboard presents a bewildering variety of scenery, fantastic in its aspects. The Sierras descend almost into the ocean and the tremendous waves of the Pacific have scripted strange and wondrous shapes into the cliff of the shore, beating out caverns wherever the lower strata were mere conglomerate, detaching huge column-like rocks on which myriads of sea birds perch. The Golden Gate has been described a thousand times in prose and in verse but a book could be written on the wonderful Mendocino coast alone. It is the gate through which the sun in his majestic splendor passes from the American continent to the Western seas, night and the stars stealing in behind. But nature, in her generosity of beauty and utility, has built into the Western wall of the continent at San Francisco a golden sea-gate. This wonderful gate forms the entrance and exit for the commerce of the Pacific. Two great, gray rocks jut into the waves, and between them the deep, blue tide flows in and out. But with the evening comes a change. The sun now touches the heavens and earth and the sea with his magic brush of fire and the low clouds glow with a golden fleece; then the rocks become burnished, and a sea of molten gold sweeps through the Golden Gate. A new, strange world seems suddenly to have dawned upon the senses of the spectator, but with every passing moment there is a change in tint, until the splendor of light fades into the stealing purple shadows, and night spreads its mantle upon shore and sea. Nowhere on the globe does one get such vivid sunset color effects. A wild exultation flames up in the heart of almost every beholder. Nature is almost garish in its splendor here, so that it may not escape even the dullest soul. One who has seen a Golden Gate sunset, never forgets it.

BEAUTIFUL AMERICAN PARKS

"Go forth under the open sky, and list to nature's teachings."-Bryant.

IVILIZATION is a destroyer as well as a creator. It first destroys nature—and then erects its counterpart in art. It fells the majestic forests, it despoils mighty mountains, it harnesses silver rivers, it bridges silent chasms in its utilitarian spirit, and then proceeds to restore or imitate the lost primeval grandeur. And so civilization has been fast sweeping out of existence what was once the savage beauty of the American continent, to take coal, and iron, silver and gold from the breast of nature, until to-day in all parts of the country it is designing and creating thousands of public parks and beautiful drives through the art of the horticulturist.

The dense populations in all the large American cities have found that to live without nature is not to live at all. Buildings have been razed and thoroughfares diverted to create broad expanses of greensward and winding paths, hedged with blossoming flowers and arched with spreading trees as "breathing places" for the populace. Every American city to-day is studded with public parks, like emeralds set in rings of gold. Every small village has its "green" under the shade of towering oaks, and elms, and maples. There are probably more than ten thousand of these

public parks in the United States.

We caught a glimpse of nature's virginal glory in the chapter on the "Grandeur of American Scenery"; we will now take a hurried journey through the reservations that have been set aside as National Parks—vast empires in themselves. These domains alone are larger in area than some of the kingdoms of the Old World. Only a generation ago the Grand Valley of California, 500 miles long and 50 miles wide, was but one sea of golden and purple flowers. Now it is plowed and pastured. The gardens of the Sierras are trampled ruthlessly by settlers; the slopes of the Rockies are laid bare by lumbermen. But, even with this despoilation by encroaching civilization, some forty million acres of land still clad in its primeval grandeur have been reserved for the benefit of the people. The National Government keeps as a playground for its children and adults five parks and thirty-eight forest preserves, which equal or surpass in beauty the most marvelous scenery of the various continents.

The largest National Park is the Yellowstone. It is a wilderness on the broad summit of the Rockies, a place of fountains and brooks which on their way to the sea grow to be the greatest rivers of America. The central portion is a wooded, volcanic plateau rising to a height of 8,000 feet above the sea, and surrounded by a host of imposing mountains. Numberless lakes reflect the sky, united by a system of streams that spurt out of hot lava beds or tumble from snowy peaks.

All the common aspects of nature that one encounters in the wilderness are here to be found. The Yellowstone is like a precious jewel case, rich in gems and diadems of nature. Geysers rise amid boiling springs, whose basins are arrayed in the most gorgeous colors; mud volcanoes; hot paint pots, whose contents defy classification, plash and roar in bewildering manner. In cool fountains, petrified forests are revealed, tier above tier where they grew, rigid and silent in their crystalline beauty. There are hills of crystal, hills of sulphur, of glass, of ashes; hills covered with tender bloom, and hills baked in "hell's fire" the color of brick.

These bewildering wonders are now under the protection of troops of United States cavalry. Under their care, the forests are protected both from axe and from fire; the curiosities are preserved, and the furry and feathered fauna of the region, which at one time was disappearing rapidly, is now increasing. The Yellowstone is the highest and coolest of all the National Parks. Frosts occur every month of the year. Its altitude, which varies from 6,000 to 13,000 feet above the level of the sea, makes it a wonderful health resort.

The Yellowstone has been justly called nature's laboratory; its four thousand hot springs and one hundred geysers, innumerable paint pots, flasks, retorts, seem to hold or belch a galaxy of color and substance—no two of them are the same in temperature, color, or composition. And what an ideal place for the seeker after the moods and mysteries of nature. The ground sounds hollow under foot; now and then it shakes when the subterranean thunder starts rumbling. In the moonlight or under an overcast sky, the geysers seem to be monstrous dancing, tottering ghosts.

In the center of the park we come to the famous Yellowstone Lake. It is about twenty miles long and fifteen miles wide and lies at a height of nearly 8,000 feet. Let us follow the noble river that issues from it—behold, we stand before the wizardry of nature—it is the Grand Cañon into which it thunders in two magnificent falls. The wild beauty of the Cañon cannot be described—it must be seen by one's own eyes. Its walls from top to bottom glow in a glory of color. All the earth seems to be writhing in sensuous color—passions in white, green, yellow, blue, red, retaining its dazzling hues while beaten by centuries of wind and rain.

BEAUTIFUL AMERICAN PARKS

Here and there a herd of buffaloes is seen grazing. Bears growl through the cañon—touched by civilization and becoming tame since they have

found that no danger threatens them.

On the glorious Sierra Nevada, a section of wilderness thirty-six miles in length and forty-eight miles in breadth, has been set apart—it is the Yosemite National Park. The famous Yosemite Valley lies in the heart of it and there are found the headwaters of the Toulumne and Merced Rivers. The Yosemite is quite different in aspect and character from the Yellowstone. Here nature appears in a gentler, less turbulent mood. The ground is frequently shaken by earthquakes, but the chemical experiments of Mother Earth are not as disturbing and obvious in the Yosemite as they are in the Yellowstone. Instead of ghoulish geysers we find pic-

turesque, dreamy waterfalls.

While this glorious park embraces exhibits of every one of the Sierra's treasures, it is extremely accessible. It is only 150 miles from San Francisco, and many lines of railroad lead to its foot-hills. The park is well divided into lower, middle and Alpine regions. The lower, with an average elevation of 5,000 feet, is the region of the great forests of gigantic sugar-pine, the largest and most beautiful of all the pines in the world. The yellow pine is next in rank, and then come the Douglas spruce, and the "big tree," the Sequoia, the noblest of a noble race. The middle region is dotted with hundreds of glacier lakes and glacier meadows. It shows the wonderful examples of glacier pavement. Here is the region of primeval granite, heavily sculptured by glaciers, and graphically telling the story of the glacial period on the Pacific side of the continent. The most attractive phenomena are the glacial pavements, flat or gently undulating areas of solid granite over which the ancient glaciers slowly crept. Granite, slate, and quartz alike have been planed to a wonderful finish, which in the sunshine gives the impression of burnished silver. Above, tower the granite domes and peaks of the Sierra.

The most interesting feature of Grant National Park and Sequoia National Park is the 'big trees,' or sequoias, which give the latter park its name. The 'big tree' is nature's forest masterpiece. It belongs to the most ancient flora of the world. Old rocks show that this genus was widely spread over the earth, but in the present age the big tree is only found in California and in a few groves of Oregon. The big tree attains a height of 300 feet and a diameter of 30 feet. The bark of the full-grown tree is from one to two feet thick and is of a rich cinnamon brown. The big tree keeps its youth longer than any of its woodland neighbors. While silver firs are old in their second or third century, the big tree does not reach its prime before its fifteen hundredth year, nor does it show signs

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of age before it has weathered 3,000 winters. Many of these American trees are much older than this.

With the giant parks, we must mention among the nation's greatest playgrounds, some thirty-eight forest reservations—a magnificent realm of woods. In the million-acre Black Hills Reserve of South Dakota, the east-ernmost of the great forest reserves, there are delightful sauntering grounds

in open parks of yellow pine.

The Rocky Mountain Reserves—Teton, Yellowstone, Lewis and Clark, Bitter Root, Priest River, and Flathead—comprise more than twelve million acres of unclaimed, rough, forest-clad mountains, where the mightiest streams of the country have their source. The vast Pacific reserves in Washington and Oregon include more than 12,500,000 acres of magnificent forest, peopled with gigantic trees. Along the moist, balmy, foggy, west flank of the mountains, facing the sea, the woods reach their highest development, and, excepting the California redwoods, are the largest on this continent. Leaving the heavy shadows of the woods, one steps almost everywhere into natural gardens of lilies, orchids, and wild roses. Along the lower slopes, especially in Oregon, there are lilies and rhododendron in glorious masses of purple in the spring.

The Mount Rainier Forest Reserves present some of the most wonderful scenery in the whole world. Of all the volcanoes, which once blazed along the Pacific Coast, Mount Rainier is the noblest. It bears the most picturesque forests, and, with the exception of the Shasta, is the highest. Its massive dome rises out of the forests like a world by itself to a height of 15,000 feet. The forests cease at a height of 6,000 feet, and then begins a zone of the loveliest flowers, fifty miles in circuit and two

miles wide, after which the icy summits rise into the sky.

The Sierra of California is the most beautiful and the most useful of the forest preserves, embracing four million acres of the grandest scenery

and largest trees on the continent.

The Grand Cañon Reserve of Arizona, two million acres in area, is noted for its supreme grandeur and beauty. There one finds suddenly the most tremendous cañon in the world. It is 6,000 feet deep and from ten to fifteen miles wide. The vast space between the walls is crowded with Nature's most powerful and weirdest structures—a city of giants adorned with an endless, bewildering variety of battlement spire and tower.

Thus, we might spend a lifetime in steeping the senses with beauty on the American continent, in intoxicating the vision with riots of ravishing color and form, in intellectual and archeological study in search of the secret of nature's genius—for truly it is not in distant Italy, or Greece, or Egypt that nature created her masterpieces, but here in our homeland.

GREAT AMERICAN ARCHITECTURE

Built his great heart into these sculptured stones, And with him toiled his children,—and their lives. Were builded, with his own, into the walls."

—Longfellow.

RCHITECTURE is the work of nations," said Ruskin. It is more than that—it is the physiognomy of a nation; it shows not only the features of the face of a nation, the expression of its countenance, but it shows the predominant temper, the

qualities of mind-it denotes the character of the people.

Upon this scientific foundation let us record at the beginning of this chapter that America is producing the truest and the greatest architecture of modern times—architecture with virile individuality and vigorous character. If architecture is the composite face of a people, then we have in our national structures the spirit of all the Old World masters in our public buildings.

The migration of a million immigrants a year from all parts of the earth infuses into our nationality the souls of the builders of the Pyramids, the Greek temples, the Byzantine churches, the Romanesque monasteries, the Gothic cathedrals, the palaces of the Renaissance. In our great Jewish population—far exceeding that of Jerusalem in its zenith of glory—we have the blood that erected the Temple of Solomon. The Hellenic age comes back to us from the Mediterranean. The spirit of the Pantheon and the Coliseum is here—Italy and France, Spain and England—all live again in the New World and transfuse themselves into the new American race.

Behold the result! Here in America—under the spell of the spirit of liberty—emancipated from the monarchial forms of the Old World—we see huge structures of granite and marble rise—structures which almost stagger the imagination. The courage, daring, indomitable will of the American people are typified in the giant steel edifices that stand in the cities throughout the continent—monuments to American energy and progress. The sky-scrapers in the great metropolises are mighty creations of the imagination—united with the genius of invention, the power of industry, and the skill of hands and brains. The Government buildings, courthouses, post-offices, and State capitols in the forty-eight States (see

the illustrations in this book) symbolize the present status of American civilization—the remodeling of Old World forms on substantial foundations for the purpose of utility and business administration, according to the needs of an industrial age. Photographic reproductions of many of

these buildings are given in these pages.

It must be remembered that we are an industrial people, building a new nation, and we do not claim to have cultivated the æstheticism of the ancients. We erect railroad stations, museums, churches, schools first for purposes of utility—to meet the needs of the people. The element of æstheticism that may be shown in this undertaking is, in the present state of our national development, secondary. Ruskin remarked that the value of architecture depends on two distinct characters: "the impression it receives from human power; the other, the image it bears of the natural creation." The first we claim in the highest degree; the second we are developing with our economic system and will perfect, as did the older civilizations, as we acquire more leisure. As Ruskin also said: "Better the rudest work that tells a story or records a fact than the richest without meaning."

Let us now briefly survey the general development of American architecture. America has had a distinctive national architecture at two different periods of her history—during the Colonial period and during the Twentieth Century. The first settlers found no aboriginal style that could be developed and improved into any sort of architectural order. The conical wigwams of the East and North, the primitive community houses of the South and West were very unpromising models from which to start.

When the English established their settlements on the Eastern seaboard, the Dutch in New Amsterdam, the French in Canada, the Carolinas and Louisiana, the Spaniards in Florida, New Mexico and California, they built their homes according to the fashion prevailing in Europe during the Seventeenth and Eighteenth Centuries. Yet a distinctly American style was evolved. Even though the builders brought over a large amount of their materials, the new structures assumed a character different from their prototypes, owing to the difference in climate and building materials. Where in the old country the work was executed in stone or in brick with stone details, the construction in this country was in wood or in brick with wood ornamentation. The Roman orders were the basis of every architectural design; but the proportions adapted to stone structure were too massive and ponderous to be repeated in a lighter material. Thus columns and pilasters became higher in proportion to their diameter, entablatures lower in proportion to the height of columns and pilasters. The facile



MAGNIFICENT ARCHITECTURE IN AMERICA—St. Patrick's Cathedral on Fifth Avenue, New York City—The finest types of architecture are found in churches, libraries, and government buildings—Private residences equal those of many royal palaces.



MAGNIFICENT CATHEDRALS OF WESTERN HEMISPHERE—There are many beautiful church edifices in America—This shows the architect's drawing for the Cathedral of St. John the Divine in New York—This structure is being erected on Morningside Heights, commanding a magnificent view of the metropolis.

GREAT AMERICAN ARCHITECTURE

nature of wood enabled builders to give the details a delicacy to which stone could not lend itself.

The Colonial house, so perfectly individual, was formal and stately; it avoided all picturesque or romantic detail; its studied symmetry, its fastidious precision indicated a large but ceremonious hospitality, drawing the line very strictly between the aristocracy and the common people. Old mansions of that type are preserved with reverence along the shores of New England, especially in Portsmouth, in New Hampshire, in Salem and Cambridge, Massachusetts, and in Newport, Rhode Island. Within a range of fifty miles from the coast, they are not unusual in the Middle States. We find many on the banks of the principal waterways in Virginia and other Atlantic and Southern States. Many of them have passed unscathed through the social and political storms which took place between

the Colonial period and our own.

Early religious buildings in America showed the same adaptation of European styles to American conditions. In California and the Southwest, the Spanish missionaries had the Indians erect adobe or rubble mission-houses with areaded cloisters and porches, churches with low towers and belfries piously preserving the characteristics of their rural Spanish prototypes. But here again the difference in the material employed invested those structures with a certain originality. California is now adapting this Spanish-American architecture introduced by the missionaries to her scenery and the building materials found in the region. The beautiful buildings of the Leland Stanford University at Palo Alto show what powerful effects can be attained through a judicious use of those old styles modified to suit climate and conditions. In Florida the adaptation of the more monumental forms of Spanish art to modern use, as in the Hotel Ponce de Leon and the Alcazar of Saint Augustine, has been so successful that it will probably be employed more widely in that picturesque region.

After the close of the Colonial period, we witness in our public buildings a return to the Greek and Roman models. One of the most interesting of these classic efforts was constructed by Thomas Jefferson at his home in Monticello and at the University of Virginia, which he founded. It was while he was a cabinet minister and later President that the project of erecting a national capitol and an official residence for the Executive assumed a definite shape. His powerful influence was an important factor in securing for the construction of those buildings the best available talent. This was very fortunate, for the Capitol and Executive Mansion have served as the models for countless national buildings and the majority of State capitols, all over the country. The National Capitol as it stands to-day is the work of Charles Bulfinch and Thomas U. Walter. After the

AMERICA: THE LAND WE LOVE

capitol had been burnt by the British, in the War of 1812, Bulfinch was placed in charge of the work of reconstruction. It was Walter who extended the original plans by building the great wings, and the lofty central dome.

The function of designing and building Federal courthouses, customhouses, post-offices, and other national structures was in the hands of the supervising architect of the Treasury Department for many years, that official having at a time as many as fifty or sixty buildings in course of construction. The result has been an established style in our national buildings.

There came a period when private architecture discarded the Greek and Roman styles, following the Gothic forms. Immediately upon the Gothic vogue there followed the so-called Queen Anne revival initiated by Norman Shaw. Any account of the architecture in the middle of the Nineteenth Century would be incomplete without a mention of Richard Upjohn's work. He has been called the "father of American architecture"; he did not initiate any purely American movement, but, at a time when soberness and reserve were the qualities least observable in American buildings, he rendered a great service to the country by returning to pure archæological Gothic. We are indebted to him for Trinity Church and Saint Thomas Church in New York, Grace Church and Christ Church in Brooklyn, Grace Church in Providence, St. Paul's in Buffalo, St. Peter's in Albany, the Bangor Cathedral, St. Paul's in Baltimore; also many other churches. Upjohn became president of the American Association of Architects, when it was founded in 1866, and till his death in 1878 devoted his energies to elevating the level of the architectural profession in this

America is becoming a nation of magnificent cathedrals and church edifices. The most beautiful among them is the St. Patrick's Cathedral, and the St. Thomas Church, in New York, perhaps the most splendid church of this side of the world. The new cathedral of St. John the Divine, now in course of erection on Morningside Heights, New York, is a masterpiece in Gothic.

In the past forty years architectural schools have been established in this country and have contributed greatly to freeing the native architect from bondage to European methods and standards. We may point to many magnificent private residences throughout the United States, but it is in commercial architecture that America has developed a style all her own. Commercial buildings have gradually eliminated massive masonry foundations and the huge piers anchoring the structure. The lower floors are used for display purposes—consequently columns and piers must be

GREAT AMERICAN ARCHITECTURE

abolished or reduced to a minimum. The walls are done away with; gigantic steel structures take their place.

Architects insisted until very recently on building their sky-scrapers on the plans of Greek temples, raising the lintel to the top floor and retaining on the ground floor the pillars characteristic of the various Greek orders. It is only within the past ten years that the sky-scraper has assumed a distinct individuality. The Woolworth building, in New York, the tallest building in the whole world, is absolutely and exclusively American in its general plan, the treatment of its façades, and its ornamentation. The Metropolitan building is another imposing example.

Many bank buildings assume the form of Greek temples; some of them are good imitations of classical monuments. The large number of libraries built by public institutions and made possible by the munificence of multi-millionaires has led architects to evolve a beautiful type of building well suited for that purpose. One of the best examples of that type of architecture is the New York Public Library. Educational buildings have been generally designed according to classical styles. Yale, Harvard, Princeton, and many other universities preserve a classical atmosphere. The various buildings which have been added in recent years to Columbia University, West Point, Annapolis, Berkeley, and other institutions of learning are notable for their impressiveness.

Art and industry are joining hands in the railroad stations in the larger American cities. The Union Station in Washington, District of Columbia, is an interesting type of building, monumental in appearance and harmonizing well with the other edifices of the capital. The Pennsylvania Station in New York is an imposing structure. The Grand Central Station in New York is a gigantic structure with tremendous areas in which passages lead to subways and to various adjoining streets like huge arched vaults. The public concourse is an impressive hall which is beauti-

ful in its conception.

Thus, we might continue to travel through the United States, gazing upon many notable edifices and reading the whole story of the rise and development of the American nation in these tablets of stone and marble. Let us follow the rule of Ruskin: "When we build, let us think that we build forever. Let it not be for the present delight, nor for present use alone. Let it be such work as our descendants will thank us for, and let us think, as we lay stone on stone, that a time is to come when those stones will be held sacred because our hands have touched them, and that men will say as they look upon the labor and wrought substances of them: 'See! this our fathers did for us.'"

GREAT AMERICAN MUSEUMS

"It is the treasure-house of the mind, wherein the monuments thereof are kept and preserved."

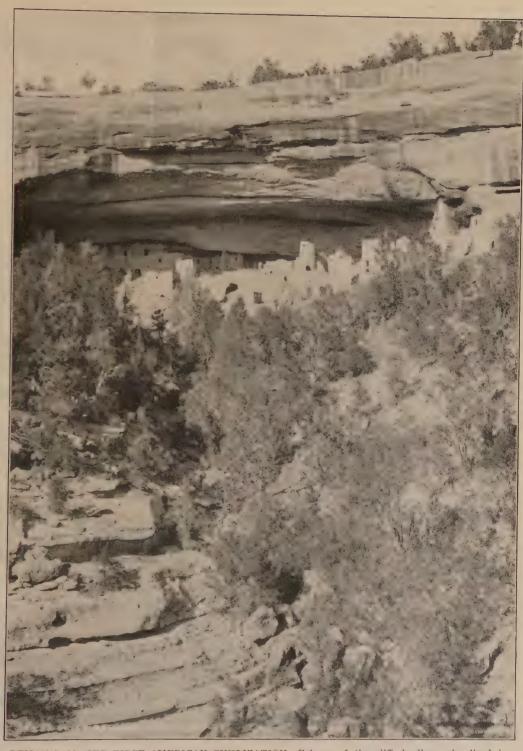
—Fuller.

USEUMS—the treasure houses of antiquity and the galleries of the arts and sciences—are the truest records of the progress of the human family. More clearly than on the written page, can be traced the ambitions and passions of men, their habits and customs, in the creations that they leave behind—the armors, helmets and shields of warriors long gone; the robes and sandals of men whose feet trod the earth generations ago; the woven fabrics of women whose laughter rang through civilizations that were in their glory in centuries of the far past.

It is weird indeed, and yet how close we come to life, when we touch the gems that adorned the throats of the lovers of past ages; when we stand before the petrified bodies of Egyptian kings; when we look upon the swords that once dripped with human blood. When we gaze in admiration upon the canvases painted by the hands of the masters, we can see in our mind's vision the brush of the painter as it dips into the colors on the palette, or the clay and scalpel in the firm hand of the sculptor.

There was a time when these priceless relics of past ages were all treasured in the museums of the Old World. But that time is now also with the past. America to-day is becoming the keeper of the world's treasures. Magnificent edifices have been erected to hold the relics of stone, and bronze, and precious metals, the fabrics and utensils that relate the story of human development. Beautiful structures of marble, temples of the Fine Arts, have been constructed to preserve the masterpieces of the world's greatest painters and sculptors. During the last generation the treasures of the art world are being brought to America, until it seems that the American connoisseur is denuding Europe of its art and that in the coming years the work of the old masters will find its final resting place in the American museums and galleries.

America never had any national museums until an act of Congress, in 1846, when the Smithsonian Institution, at Washington, became custodian of various national collections. This institution, which is at present one of the greatest scientific institutions in the world, was created in accordance with the will of James Smithson, an Englishman born in



REMAINS OF THE FIRST AMERICAN CIVILIZATION—Palaces of the cliff dwellers who lived in New Mexico before the discovery of America—They constructed their principal villages on the mesas in the shelves of rocky cliffs.



AMERICAN INDIANS IN ARIZONA - GROUP FROM A HOPI VILLAGE



GIANT DINOSAUR FROM WYO



PREHISTORIC SKULL



IROQUIOS INDIAN WOMAN POUNDING CORN



AMERICAN BIRDS - BROWN PELICAN FROM INDIAN RIVER IN FLORIDA



AMERICAN ANIMALS - ROOSEVELT ELK FROM NORTH WESTERN UNITED STATES



LARGEST METEORITE IN WORLD -361/2 TONS BROUGHT FROM GREENLAND BY ROBERT E. PEARY



BEAVERS FROM COLORADO - SHOWING HOW THESE ANIMALS LIVE AND



WEIGHT 40 TONS-LENGTH 70 FEET



PPEHISTORIC SKULL



LIFE AMONG THE AMERICAN INDIANS

NAVAJO INDIAN GROUP



INDIAN WAR CANOE FROM ALASKA-641/2 FEET LONG DUG FROM A SINGLE TREE



POLAR BEARS - MALE ON RIGHT BROUGHT FROM ARCTIC BY ROBERT E. PEARY



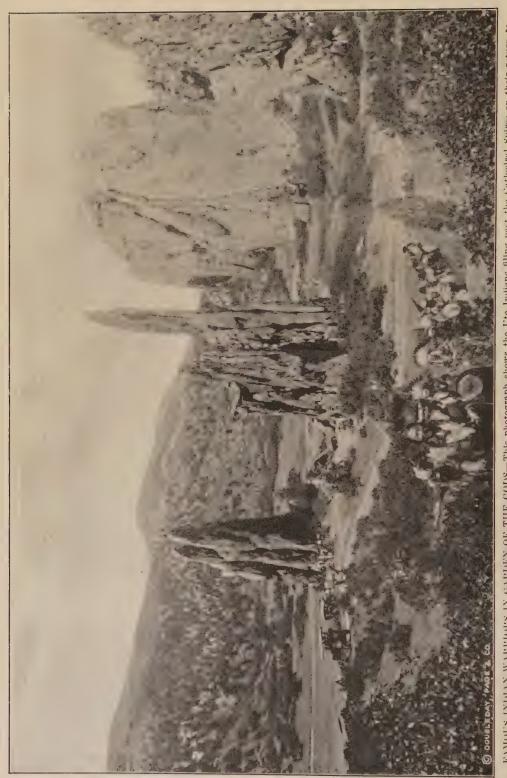
AMERICAN EGRET FROM SOUTH CAROLINA



ERICAN BISON OR BUFFALO - FROM THE PRAIRIES OF THE GREAT WEST



SHELL CAMEO CARVED IN ITALY
GEM COLLECTION OF J. PIERPONT MORGAN



EAMOUS INDIAN WARRIORS IN GARDEN OF THE GODS—This photograph shows the Ute Indians filing past the Cathedral Spires on their return to their bistoric camping and worshipping ground during the summer carnivals at Colorado Springs—This beautiful natural garden was formerly a part of their possessions.

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France, who never set foot in the United States, and who for unknown reasons bequeathed to this country an estate of over half a million dollars. The aims of the institution are: to stimulate men of talent; to make original researches by offering them suitable rewards; and to diffuse knowledge by publishing periodical reports on progress in the various lines of scientific endeavor. The Smithsonian Institution is in charge of the National Museum of the United States, the designated depository for all the zoological, botanical, geological, ethnological, archæological, and art collections belonging to the government. There we find the most complete collection in existence of documents and materials relative to the aborigines of North America. Later donations and Congressional appropriations have enabled the regents to establish a bureau of ethnology, a national zoological park, and an astrophysical observatory.

Museums have been erected in nearly all the American cities. It would well repay any American to visit the most important scientific museums in the United States—the American Museum of Natural History in New York, the Museum of Comparative Zoology, Cambridge, Massachusetts, the Peabody Museum in Cambridge, and The Field Columbian Museum in Chicago. The Army Medical Museum in Washington is devoted to the structure of man, the effect and treatment of injuries and disease. The Commercial Museum of Philadelphia is the sole institution of its kind in the United States. Almost every one of those museums issues guide-books and invites the public to lectures on topics illustrated in their various departments. The steady trend of museum development has been in the line of extending the educational influence of their collections and in making them useful to the whole people.

This is the age of art in America. A half century ago there was not a single public gallery of art in this country. At present there is not a city which does not set aside at least one room of some public building in which are collected paintings or statues of artistic merit. The leading art museums of this country are the Metropolitan Museum of New York, the Boston Museum of Fine Arts, the Pennsylvania Academy of the Fine Arts,

and the Corcoran Gallery in Washington.

The Metropolitan Museum is a treasure-house of the Fine Arts. Its growth has been fostered by individual initiative and love of the arts. It had no Government foundation, as did the great museums of Europe, which often are assisted by royal bounty. Municipal help did not come to the collections until the value of the museum's work had been clearly demonstrated. The first suggestion to establish a museum came from the great diplomatist, John Hay, in an after-dinner speech delivered in Paris. A few prominent New Yorkers met and considered the advisability of or-

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ganizing a museum of art in 1869. The museum was incorporated in the following year. A president and twenty-one trustees assumed the task which was then colossal; every one of them had to give liberally from his own resources.

The first exhibition hall was in the rooms of a dancing academy. One hundred and seventy-five paintings of the Dutch and Flemish schools, which had been purchased in Europe for the trustees, were hung and presented to the public, together with a collection of various art works. Legislature authorized the Department of Parks to erect a suitable museum building in Central Park in 1871. The Central Park building was inaugurated in 1880, and the Catherine Lorillard Wolfe collection of paintings, which had been bequeathed to the museum, was then placed on view for the first time. The presidents of the museum have all, one after another, left to the institution wonderful collections of paintings, statues, or curios. The Johnston, Marquand, and Morgan collections have greatly added to the treasures. The income of the Roger bequest of \$5,000,000 is constantly used in making the collections complete from a historical or artistic point of view. George A. Hearn offered a long sought opportunity to American artists by establishing a fund of \$150,000, the income of which was to be spent in purchasing canvases by living American painters. Many other donations have enabled the museum to acquire large groups of paintings or statues, one of the most notable being the Thomas Fortune Ryan donation which added a remarkable collection of Rodin's work to the sculpture section of the Metropolitan. F. C. Hewitt and John Stewart Kennedy left \$1,500,000 each to the museum.

The Metropolitan Museum has the largest collection of American paintings, both old and modern, to be found anywhere. Among the most famous canvases from the brush of native artists we may mention Whistler's "A Lady in Grey," "Nocturne in Green and Gold," "Nocturne in Black and Gold," several of La Farge's paintings, Winslow Homer's "Cannon Rock" and "The Gulf Stream," William Chase's "Fish" and "Carmencita," John W. Alexander's "Study in Black and Green," Murphy's "The Old Barn," and Horatio Walker's "Sheepfold." The more modern men are represented: Dessar, Dearth, Mary Cassatt, Arthur B. Davies, Thayer, Tryon, Vedder, Ranger, Alden, Weir, and others.

A collection of works by American sculptors is now being formed. The work of the foremost American master of sculpture, Saint Gaudens, is represented here by replicas of three bas-reliefs. George Gray Barnard's marble group, "I feel two natures struggling within me," Paul Wayland's "The Bohemian," MacMonnies "Bacchante," exiled from Boston, Gutzon Borglum's "The Mares of Diomedes" are rare exhibits of New

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World sculpture. Several American sculptors have won fame in animal sculpture. Foremost among those represented in the Museum are William Rimmer, A. P. Proctor, Edward Kemeys, and Anna Hyatt. A fine example of realistic portraiture is D. C. French's bust of Emerson.

The masters of the foreign schools, classical and modern, are represented by canvases which place the Metropolitan on a par with the best European galleries. We can only mention Rubens' "The Holy Family," "The Portrait of a Man," by Franz Hals; "The Portrait of James Stuart," by Van Dyck; "The Portrait of Don Sebastian Martinez," by Goya; "A Seaport," by Claude Lorrain; "The Sleep of Diana," by Corot; "The Brothers Van de Velde," by Meissonnier; "English Landscape," by Gainsborough, and many other masterpieces.

The Boston Museum of Fine Arts was opened to the public in 1876, after six years of conscientious work on the part of the trustees. Several Boston institutions wished to have a suitable place in which to exhibit the various artistic or archæological works in their possession. The Institute of Technology needed a place to keep its casts; Harvard College needed a fireproof building in which to place the Gray collection of prints; the Athenæum had closed its art galleries in order to make room for its books. The several bodies were brought together and determined to build a museum, relying for its support on voluntary contributions from the citizens of Boston.

The building was begun on the site dear to all Bostonians-Copley Square. Gifts soon began to pour in and also large collections, like the Way collection of Egyptian antiquities, the Japanese treasures of Dr. C. G. Weld and Dr. W. S. Bigelow, the Japanese pottery collected by Edward D. Morse, and the superb gifts of Dr. Denman Ross.

Many masterpieces were bought, including ten paintings of the Dutch school, purchased at the sale of the Demidoff Gallery, Turner's "Slaveship," the beautiful Velasquez, "Don Balthazar Carlos and His Dwarf," and a portrait of Franz Hals. In the Ross collection, which was presented to the Museum in 1906, are a Monet, a Tiepolo, a Philippe de Champaigne, and two Turners, besides exquisite examples of Persian illuminations. Modern pictures have been bought chiefly from the bequests of Sylvanus A. Denio and William Wilkins Warren, each of these funds amounting to \$50,000. The American School of Painting is nobly represented in Boston and is perhaps the most interesting of its departments. Owing to inadequacy of space, it was found necessary to build a new and larger museum on the Fenway, standing on twelve acres and fronting on Huntington Avenue. The new structure is laid out on the general plan of a series of courts surrounded by smaller rooms, which

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makes it possible for large objects to have open space around them, while the smaller ones can be studied at close range.

The Corcoran Art Gallery in Washington is one of the modern art palaces in America. It has no connection with the Government, but is wholly the result of the philanthropy of a wealthy citizen, William Wilson Corcoran, who died in 1893. It was opened in a building facing the War Department. This has now been superseded by the splendid gallery on Seventeenth Street, facing the Executive grounds. The Corcoran Gallery, including the building, has cost \$1,600,000.

The Corcoran Gallery contains several old paintings, including the "Virgin and Child" by Murillo and "Christ Bound" by Van Dyck. There is a Corot and many canvases by modern French painters. One room is devoted to portraits, and the visitor finds there the most complete collection of portraits of presidents of the United States. Among the marbles, Hiram Powers' "Greek Slave" is perhaps the most celebrated. The Barye bronzes are especially notable as the largest extant collection of fine animal

sculpture by this great French modeler.

These travels through the American museums and art galleries would require months of study. There are the galleries in Detroit, and Chicago, and nearly all the large cities. The private and public galleries in the cities throughout the country are treasure-houses of æsthetic wealth. Here, in these pages, we can leave merely an impression of these riches, and remark with Goldsmith: "I love everything that's old—old friends, old times, old manners, old books, old wine," that come to us from the ages when men were molding the centuries with their hands and minds. We utilize the tools and labors of the generations so that "men may rise," as Tennyson said, "on stepping stones of their dead selves to higher things."



BUNKER HILL MONUMENT—This obelisk stands on famous battleground of American Revolution—It is a granite structure 221 feet high—Lafayette attended ceremonies at laying of corner stone in 1825—Daniel Webster delivered oration.



HISTORIC WASHINGTON MONUMENT—This marble shaft rises 555 feet in height within view of White House in Washington—Almost every country of the earth contributed a stone—Corner stone was laid on July 4, 1848,











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